

THE  
**SOUTHERN AGRICULTURIST.**

MARCH, 1836.

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**PART I.**

**ORIGINAL COMMUNICATIONS.**

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*The Corn Crop.*

*Mr. Editor,*—The corn crop may be well considered among the most important in the eyes of the planter. It contributes, as much, perhaps, as any other grain to our national subsistence. As the season approaches, when preparation will be made for setting this crop, I shall present you with my plan of cultivating it.

**PREPARATION OF THE LAND.**

I use the plough almost during the whole process of cultivating my corn; and I consider it an objection, not based upon the true state of facts, that our low country lands are too heavy for the successful use of the plough. If our soil is not too heavy for our negroes to work, it is an inhuman reflection upon them to say, that it is too stiff and heavy for our horses. The truth is, most planters, who speak against the use of the plough, have never used it. As an instance of this, a friend of mine, several years ago, was a great opponent of the ploughing system, upon his sea-island land. Upon his heavy lands, he urged as an objection that the plough killed his horses, while upon his light lands, he contended that it made the soil too loose. I prevailed upon him to try my system of ploughing, for one season—he now confesses, that he gets through much more work; does it better;

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his negroes are strained less; and he makes better crops than formerly. One reason for this last fact may be, because he has more time to devote to manuring. But to return to the subject of inquiry.

In preparing my land for the corn crop, I mark out the line of my beds five feet apart, with the daggon plough. I run a deep furrow first one side of the line, and then return, doing the same upon the other side; thus throwing up a bed of about two feet base. If I have manure to apply, my first consideration is, whether it be *decayed* or not. If it be *undecayed* or only partially decayed, or if the manure be cotton-seed, I invariably spread the manure where I intend making the bed, and then plough upon it. This gives the manure time to ferment properly, and to impart its nutritive qualities to the land. If on the contrary, my manure be well decayed, my plan is different. After making my beds, as described above, I convey the manure to where I intend applying it. With the hoe, I make one or two deep chops where I intend dropping the seed. These chops I make three or four feet apart, according to the original fertility of the soil; each chop thus made, I fill up with the rotted manure from baskets, which my wenches carry. I next drop the seed upon the manure and cover them over with loose earth.

This mode, I have found from long experience, to be the most economical way of applying manure, where it is well rotted. However, I think, that where you can plant early, and prepare your lands early, more corn will be made by applying the manure in its undecayed state.

#### TIME FOR PLANTING.

In a country so various in its temperature as this is, thirty years experience has taught me to make two plantings of corn. One in March, say about the 20th, the other in May, say about the 1st, longer than this will prove uncertain. It is well here to observe, that I would rather put no manure upon my land, than unfermented manure, in my May planting. It will cause the corn to burn; or if it should not do this, it will cause it to shoot up too suddenly, and thus produce nothing but stalk. By selecting these two periods for planting, I am sure to hit the right season, for at least one half my corn; and I am clearly of opinion, that one half of a field of

prime corn, is better than a whole field of corn that has been injured by an adverse season. I have generally observed, that where we have no rains to put the corn forward in March and April, that the reverse is the case in May and June, and *vice versa*.

#### SELECTION OF SEED.

Too much attention cannot be paid to this matter. It is an opinion, with most planters, that little is to be gained by selecting corn seed; but the testimony of the very best farmers throughout the United States, proves incontestably that the greatest advantages are to be derived from making these selections. Were it necessary, I could present to you the names of hundreds who have practically tested its utility. Selections of seed might be made in three ways—

1st. From imported seed.

2d. Seed selected from the field before gathering.

3d. Seed selected from the corn-house after gathering.

1st. It appears to me, that, from certain unknown causes this State is not as well suited to the growth of Indian corn as the more Northern States. The Indian corn, there, produces much more to the acre. I have seen fields without any manure produce 50 and 60 bushels as an average. You may frequently find upon the Northern corn, as many as five and six ears, which, though not so large as our own flint corn, yields much more to the acre. Why this fact is so, I shall not stop to discuss; but it certainly appears to me, that corn which will make such a yield, should certainly be introduced among us. In the summer of 1828, while at the North, I sent on to Charleston ten bushels of this corn, and in the following spring planted a small part of my crop with the seed, my expectation, as to its yield, was not in the least disappointed. Many of the stalks bore six ears; and four and a half was the average to every stalk. I was not very accurate in the measurement of the produce, but I think from a rough estimate, that it was near 50 bushels to the acre. My other corn, from seed which I had selected, did not produce me, with the same attention, near so much. The year following, I planted my whole crop from Northern corn-seed, and made a much better crop than I had ever done before, I was warned by many of my friends

that the corn would not keep. When I gathered it in, I put it up in the shuck, and found that it kept equal to any corn I ever planted.

2nd. Corn might be very much improved by selecting your seed before picking in your crop. For this purpose, select your most trusty pickers, and send them out to gather from every stalk that contains the most ears. From such stalks, let them select the largest ears, leaving the others to be collected in with the main crop. From the ears thus collected, shell off the corn from both ends, in order that you may have only the fullest and largest grains for seed. This work you may allot to your little negroes, or infirm and sickly hands. From corn thus selected, the improvement in your crop will be astonishing.

3rd. After you have picked in your corn, you may also improve your crop-seed by selecting the largest and best looking ears. This may be done either as a set work; or by selecting from time to time, as the negroes shell out to take their allowance. Let each one, as he comes across a fine sized ear, throw it aside until wanted for seed. This mode I find much the easiest and most expeditious in the end.

#### PREPARATION AND QUANTITY OF SEED.

Tarring the seed, though not a complete preventive against the attack of crows, is nevertheless, a considerable check to them. As to the *quantity* of seed, I always set from three to four times the number as the plants I wish to stand. There are so many of the seeds that never come up; so many that come up sickly; and so many that afterwards grow feebly, that this is absolutely necessary.

#### THINNING AND SUPPLYING.

Corn, like cotton, should be thinned two or three times, and sometime even more, care should be taken to leave only the healthiest plants. I usually thin just before each working; taking out, as I proceed, until I have reached the exact number required. I prefer supplying, by planting over, much more than by transplanting. A stalk transplanted never grows as vigorously as that from the seed.



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## AFTER CULTURE.

Whether troubled with grass or not, corn should be worked after two weeks old. In doing this, I use the bull-tongue plough, in the following manner:—I plough upon both sides of the beds, within six inches of the plant, by which means the earth is completely loosened about it, the air is admitted to its roots, and it is thus strengthened. In two or three weeks after I again commence work with the daggon-plough, and run a furrow in the alleys, by which means the earth is thrown up to the young corn, which about this time needs some hauling up. Immediately after this last ploughing, I go over the crop with the hoe, haul up the dirt properly to the plants, and cut all the grass which may be growing between them. I have never used the skimmer-plough\* myself; but I have seen it used with such complete success by others, that I shall try it this season upon both my corn and cotton. It is a mistaken notion, to suppose that our lands of the lower country are too grassy for its successful use. In Barnwell District, I have seen it used upon the deep swamp lands, where the grass grows more luxuriantly than I have ever found it with me. When properly used, I have seen it cut the grass from the beds and alleys, as handsomely and effectually as any hoe. I wish some of your correspondents would furnish us with a full description of this plough, with its uses, and the modes of using it, and if you, Mr. Editor, would present us with a plate of the implement, I am confident you would introduce a new era into the corn cultivation of the low country.

Respecting the *time* and *mode* of gathering in blades and curing them; the gathering of corn; and planting of peas among corn, I shall wait another opportunity of saying something. Meanwhile, you must excuse me, if I have expressed myself very imperfectly in this communication.

*St. John's Colleton, Feb. 10, 1836.*

We feel highly indebted to our correspondent for his valuable article on the "Corn Crop." Although not per-

\*This plough may be had at Mr. Martin's Blacksmith Shop, Wentworth-street, Charleston; we are authorized in saying, he will take pleasure in exhibiting these ploughs, and in showing how they are to be used upon our land.

mitted to publish his name, we must, nevertheless, take the liberty to say, that the author is known to us, as one, whose skill and long experience as a planter, entitle him to the greatest confidence from our readers.

We think, that such a writer needs no excuse in appearing before the public. Once for all, let us assure him, and through him, the public, that it is not fine writing, that is looked for in this journal. Our chief object, is to impart *information*—information of facts, and of experiments made upon facts. Where such information can be conveyed, in a neat and perspicuous style, we, of course, prefer it; but rather than lose it altogether, we be perfectly willing to receive it in the clumsiest possible manner. Labouring under the disadvantages, which many of our planters do, it is not to be expected that they should write with the same ease and grace of those, who make writing a profession. In imparting agricultural information, the best style for to adopt, is that which comes easiest. Be assured if this be done, they will write pleasantly, and no one, so long as information is his object, will stop to inquire, whether each word is the best that could have been used, or whether just in the place, the grammarians would have it. It is said that a traveller in a desert, about to die with hunger, discovered a bag. Believing it contained food, he seized it with the utmost delight; but upon opening it, he found it contained the richest diamonds. “Alas!” exclaimed he, casting it away, “the bag contains nothing but diamonds, and I am left to die of hunger.” This fable is an excellent lesson to those, who refuse to write, because they cannot do so in the most showy manner.—*Editor.*

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*Agricultural Queries.*

St. John's, Berkley, February 1, 1836.

*Dear Sir,*—Having recently directed my attention almost exclusively to Agriculture, I feel greatly the want of works affording instruction, in the first principles of the Science or Art. In this section of country, (though Agriculture is said to flourish) we pursue a system of routine. We manure our lands with compost; but it is not yet decided, whether our manures are of any

great benefit to our crops. Some planters, will show you fields which, after having been highly manured for years, produce no more now, than formerly; other planters, again, will bear testimony to the most decided improvement, asserting that their fields are more fertile and productive than they were even when fresh.

Why is there this contradiction of opinion? And this difference of result? The answer is plain and obvious, viz. we pursue Agriculture without any knowledge of the constitution of soils and the physiology of plants. Putrescent manures are applied indiscriminately to all soils, and the question is never asked, whether the soil is so constituted as to combine with them.

From the little advantage which I have seen result from heavy manuring on my plantation. I am satisfied that the soil has either lost, or never possessed the most important ingredient—*calcareous matter*. The greater part of my neighbourhood, appears to me, to be in the same condition. The margins of swamps are still fertile and productive, and vegetable manures readily combine with the soil in such situations. On other places, further removed from swamps, the application of manures is not attended with the same degree of benefit.

Mr. Ruffin, a co-labourer in Virginia, has written an excellent work on the use and advantages of calcareous manures. He makes use of the materials found on his farm, consisting of fossil shells, mixed with clay. As we have no such resources, it would be important to learn how much shell lime would be an equivalent for Mr. Ruffin's crude material.

An article from yourself, or from some one of your correspondents, shewing the use and mode of application of lime, would, I am sure, be very gratefully received by most of your subscribers. Wishing you success in your enterprise,

I remain, dear Sir, yours, very respectfully,

JOHN P. PORCHER.

The communication of Dr. Porcher suggests many important considerations. The subject of compost manures, to which he alludes, and which has proved so various in its effects, is, perhaps, as much talked of, and as little understood, as any part of agricultural science. Every planter considers the accumulation of *compost* next in

importance to the planting of his crop; yet, how very few practice economy in preparing it. In our excursion into the country, during the last month, we were amused in witnessing the various modes of using this manure upon different plantations. We found one, manuring his fields by moveable pens; another was carting out compost, that had remained all the year exposed to the evaporating effects of the sun. A third, after carefully protecting his compost during the whole season, was now spreading it upon his lands, there, to lay for weeks, without being listed in. Can such planters complain, that the application of compost yields, no benefit to their lands?

It should be borne in mind, that the *nutritive qualities of all composts, consists in the urine and vegetable matter which they contain*. Independent of these, composts, in reality, possess nothing which can sustain vegetable life. Due care, therefore, should be taken, that these constituents, are not permitted to be carried off by evaporation, before being listed in the soil. Keep this principle in view, and if followed strictly, we have the best authority in asserting, that wherever composts are applied upon poor land, they must prove beneficial.

With respect to "Calcareous Manures," to which Dr. Porcher invites our attention; we regret that our want of a *practical* knowledge of their effects, prevents our satisfactorily answering his queries. The system has been so little practised in this State, that comparatively nothing is known of its effects. If, however, the testimony of the most practical agriculturists of our sister States, and of Europe, may serve as a recommendation to its adoption amongst us, we have such testimony, presented to us in every agricultural paper we receive. In Virginia, where much of the soil resembles ours, lime has been used with complete success. Near Norfolk, in that State, we were shown a field which had been remarkable for poverty and sourness, yielding the finest Indian corn, by the application of shell-lime. The number of bushels applied to the acre, and the manner of applying it, we omitted to note at the time. Information, however, upon this head, may be obtained from Mr. Ruffin's valuable work on "Calcareous Manures," and from the excellent article on the same subject, among the selections of this number.



Believing this matter to be of vast importance to our agricultural improvement, we earnestly request our correspondents, from all parts of the Union, to send us the result of their experiments. At the same time we would suggest, that the planters in the vicinity of our sea-coast, devote an acre or two, to liming. The experiment can be tried with little loss of time, and without any possible expense, in procuring lime.

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*The Apple Pepper.*

A few summers since, we were presented, through the kindness of Dr. Monroe, of the United States' Army, with a few seeds of this delightful and useful vegetable. We planted them in our garden, and have been thus enabled to increase our stock of seed.

This pepper was introduced not many years since, from the East-Indies, by the Superintendent of the Marine Hospital at Norfolk. Among the natives of the East, it is highly valued for its many excellent qualities. Dr. Monroe, informs us, that as a preventive of cholic, and spasmodic complaints, it is highly useful; and as such, has been used with great success, in the large hospital above alluded to.

The great peculiarity of this pepper over all others, is its flavour. It so much resembles the apple in this respect, that any one might easily mistake it for that fruit while eating it. To the taste it possesses not the least *arridness* or burning; its seed and veins may be eaten without any unpleasantness.

In its green state, the pepper makes a most delicious pickle; and when dried and powdered and rubbed upon meat, it is an infallible preventive against the attack of all kinds of bugs or insects. In this respect, it is preferable to the common pepper, inasmuch as it leaves upon the meat no acrid taste. The rind is very thick, and the pods about the size of the common bell pepper.

With a view to bring this vegetable into general use, our subscribers will be presented with a few seeds for trial upon application at the office of the *Southern Agriculturist*.

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*On a Professorship of Agriculture.*

*Mr. Editor,*—The recent reorganization of the South-Carolina College, and the restoration of public confidence to it, have suggested to me the expediency of a concentrated effort on the part of the Agricultural community in reference to the establishment of a Professorship of Agriculture in that institution.

When a seminary is expressly created by the constituted authorities for the education of the people, its plan ought to be so shaped as to enable every important class in society fully to participate in the benefits it was designed to confer. I shall not cause to assign the reasons for this opinion further than to say, that the scheme is in strict accordance with the genius and principles of republican governments. Why it has not been adopted, it would be superfluous to inquire. I think, however, the investigation would be so far useful as to show, that the plant of aristocracy still flourishes in our soil, and that the system of favoritism extended by law to particular pursuits, has eventuated in pernicious results, as well to individuals as to the public.

No matter what avocation he is destined to follow, every parent who can afford it is desirous that his son should receive a collegiate education. To qualify him to hold the first station in society, it would seem indispensably requisite, from the fashion of the times, that he should be acquainted with the dead languages, and have at least a superficial knowledge of every science, except the most important and comprehensive of all—Agriculture. On this principle the Colleges of the Union are obviously founded. By the legal elevation of the learned Professions, as they are styled, every other calling is comparatively degraded, and the followers of the former thus attain a rank in the community, which in part is the fruit of legislation. The Agriculturists of South-Carolina have a right to complain, that their sons are indirectly excluded from an institution, evidently meant to supply the intellectual wants of all our citizens. If compelled to adhere to the present academical course, why may it not be so enlarged as to permit them to receive instruction in those branches of knowledge, the understanding of which, I broadly assert, is essential to success in their



pursuits? I entertain no doubt that, if the plan of a Professorship be adopted, many who are now induced from the force of popular prejudice and the mandate of the legislature to prepare themselves for unprofitable avocations, would gladly look to Agriculture as the field of their future usefulness. I am equally certain that, from the want of a scientific acquaintance with husbandry, the abandonment of perhaps the majority of plantations in the lower country, is mainly to be ascribed. The practice of planting until the soil was exhausted and then of clearing a new field with the same prospective result, was at one time common; and even now, this annihilating process may be witnessed in several parts of the State. Despairing of success, which never can flow from labour so immethodically and improvidently expended, the planter with imprecations on the barrenness of his land, turns with a wistful eye to the exuberant soil of the West. From this cause thousands have abandoned the seat of their fathers, who, with ordinary skill and assiduity, could have made in money with the hoe from three or four acres, as much as Alabamians can now realize from ten acres of cotton with the assistance of the plough. I could point exultingly to portions of the State, where, by pursuing a system the reverse of that to which I have just adverted, the happiest results have been experienced. *Here* the proprietors cultivate with the same force, and with decidedly more profit, *less* land, than by the ancient mode they were compelled to till. They act on the conviction, than which nothing is more certain, that it is in every way better to manure four acres than to clear one. It is a plain dictate of nature, that her bounties are to be supported and cherished and not dissipated by the labour of man. The earth must be fed, and plenteously, yet prudently; but in the certain attainment of that end the aid of Science is indispensable. The indiscriminate use of animal and vegetable stimuli on all soils without regard to quantity, is one prominent cause of failure on the part of those who literally earn a scanty pittance by the sweat of their brow. They never reflect, it would seem, that the varieties of soil are numerous, and that each necessarily requires artificial aliment different in quality and quantity. This knowledge, in its minutest relations, which *may* be

acquired in half a century, chemistry can readily impart in a day.

As I took up my pen, Mr. Editor, principally to ask the favour of you to insert the following extract in your journal, I will only add that, if my health permitted, I would so far trespass on the patience of your readers, as to subjoin to Mr. Seabrook's reflections, and the few observations I have submitted, several remarks which now force themselves on my attention, but for the present I must forbear. Allow me to reiterate my request that, at the ensuing session of the Legislature, our Agricultural Societies would petition that body to institute a Professorship of Agriculture in the College at Columbia. In conclusion, I have one request to make of my fellow-labourers in the lower country. I desire to know how many plantations in the different parishes have been abandoned within the last eight years, and why they were abandoned. What was the probable number of working negroes on each?

SENEX.

#### EXTRACT

From an Address delivered at the first anniversary meeting of the United Agricultural Society of South-Carolina, in the Hall of the House of Representatives, at Columbia, on Thursday, 6th December, 1827; by WHITEMARSH B. SEABROOK.

"The human mind is susceptible of indefinite expansion. Admirably subservient to the great ends of its creation, its operations display the nobleness of its origin and the profundity of its comprehension. Of a nature inherently elastic, it can readily accommodate itself to any sphere of action to which the interest, or the necessity of man may invite it. At the bidding of education, it can penetrate the bowels of the earth and elucidate its arcana; or, it can soar to the very confines of that mysterious region in which a superior intelligence alone reigns. From these considerations, predicated on the wonderful and unceasing display of the power of the intellectual world, is it not a matter of astonishment and regret, that the mind of man should never have been aroused to a full development of its energies in relation to the most important object of human pursuit? Were our mental faculties given to us to elucidate the princi-

ples of particular professions only? Is Agriculture doomed to be governed by accidental circumstances? Or, was it intended, when the ground was cursed for Adam's sake, that the husbandman should enchain his reason and his judgment, as irrelevant to his vocation? To what causes are all the improvements which now characterize the system of Agriculture to be ascribed? Compare the general practice of husbandry in England now with what it was in the 14th century; and its present condition in the United States, to the very low state in which it existed at the establishment of the Pennsylvania Society.\* In the salutary change which has been effected, I point exultingly to mind, as the primary, efficient, operative agent. Until the time of the scientific Tull, Agriculture may be said to have been without order, without method, without even a fixed and determinate character. His new system, introduced into England about 70 years ago, has been the means of the English Farmer doubling "the quantity of his produce without any increased expense in the cultivation." It is true, that Cato, Columella, Virgil, and other eminent antient writers, have enriched their pages with the pleasures, the moral influence, and the transcendent national advantages of agricultural pursuits, yet their labours were but slightly directed to the methodical arrangement and digestion of the principles of their favourite art. In modern days, however, some advance has been made towards the effectuation of this object. To Rozier and Chaptal of France; to Millar, Marshall, Coke, Sinclair, Young, Davy, and others of Great-Britain; are we indebted for the partial exposition of a subject, as comprehensive in its character, as it is important in the abundance and value of its materials.

"Every pursuit of human life is the more profitable, the more useful, and the more likely to attain its legitimate purpose by a proper understanding of its elementary principles. "To the due success of Agriculture," says Mr. Madison, "theory and practice are both requisite. They always reflect light on each other. If the former, without the test of the latter, is a vain science, the latter, without the enlightened precepts of the former, is gene-

\* Judge Peters, the founder of the Pennsylvania Agricultural Society, richly merits the epithet of the Father of American Husbandry.

rally enslaved to ancient modes, however erroneous; or, at best, but too tardy and partial in adopting salutary changes." To the scientific farmer, his whole life is one eternal round of observation, examination and reflection. Invigorated by knowledge, he investigates, with a view to the application of an effectual corrective, every cause, which, in its effects, may have marred his anticipations.

"From causes, which, it is not my present purpose to notice, Agriculture has too long been deemed an art, the successful prosecution of which, needs not even an occasional scintillation from the altar of genius. Whatever may have been the origin of this unfortunate opinion, it is notorious, that the prejudices of education, and the indisposition of man for hard labour, have practically confirmed the idea, engendered, perhaps, by ignorance and pride. "Husbandry, in the general sense of the word," says a learned lexicographer, "comprehends the whole practice of Agriculture; in which, we have to consider the nature of the soils we meet with, on and near the surface of the earth. The methods of correcting those which are unfavourable to the production of useful vegetables; the improvement of such as are deteriorated by over-cropping; such implements as are fittest for facilitating the operations of Agriculture; the means and powers best adapted for such purposes; the cattle and live-stock most profitable to man, whether for labour, or more immediate use, as food; the grass, grain, roots, and pulse, most beneficial to him; and the minor subjects connected with this important science." From this analytical solution of husbandry, it is apparent, that to its improvement, several of the most valuable sciences, such as chemistry, botany, mineralogy and zoology, owe their utility; and, that he who would seek for the mental treasures, disclosed by a *thorough* knowledge of its principles, must possess an intellectual power, which, it is the lot of but few to enjoy or acquire.

"South-Carolina is emphatically an agricultural State. The prosperity and permanency of her domestic institutions are identified with its success. Her weight in the national councils, rests on its progressive amelioration. To encourage it, is a political duty, and a substantial proof of your patronage. Legislators, introduce it into your College—direct the mind of the rising generation to it, and let every yeoman have it in his power to write in



letters of gold on the lintel of his door: *To South-Carolina I am indebted for the principles of my profession.* Had an effort been made to attain that end, the heart of many a parent would have been saved its agony; the tear of sorrow would less seldom have glistened on the furrowed cheek of age. In this State, as, it is believed, in every other of the Union, the learned professions are overstocked; arising from what may not unaptly be termed an hereditary academical pride, which inculcates the maxim, that the Temple of Fame should rarely be opened to the followers of the plough. Under this delusive persuasion, hundreds of youth are annually placed on the great theatre of life, to realize the mid-day dreams of an unsubstantial philosophy. The fame of the *Literati* of antiquity so obscure their mental vision, that, although in the examination and study of history, their eyes may have rested on the unbending integrity of Frabicius; the patriotic devotedness of a Regulus, a Curius, and a Cincinnatus; and the virtues and piety of that distinguished Agriculturist, Numa Pompilius; yet, their attention having been directed exclusively to the "nobler sciences," such examples are viewed merely as a relief to the general picture, which the rude mind of the husbandman is supposed incapable of improving. To such considerations are referable moral evils of an alarmingly increasing character. In our towns and villages are many worthy young men, who, from the want of employment in their vocation, and their unfitness for any other than the business which they were educated to discharge, have yielded to the baneful influence of inactivity and *ennui*. Such citizens, ultimately, become mere drones in the hive of society. They not only add nothing to the productive means of the country, but by their habits they corrupt the public morals and weaken the force of virtuous impressions.

"There is one interesting view of this subject to which I would now advert. I have already stated, that from the sickliness of the climate, the estates of the lower districts, in the summer season, are deprived of the supervision of their owners. In general, the planter entrusts the sole management of his domestic concerns to some needy wanderer, who, without education, without morals, or the incentive to honourable emulation, assumes the mastership of a business, at once complicated in its de-

tails, and requiring the unwearied exercise of a sound discretion, to conduct it safely through the ordeal of its own peculiar composition. Oftentimes twenty or thirty incompetent overseers exercise an unlimited control over a whole district, comprising thousands of labourers. In their hands is truly for a time the whole fortune of their employers. Their ignorance cannot advance it; their indiscretion may forever blast it; and, peradventure, shake the State to its centre.\* If these considerations be insufficient to awaken us to a sense of the magnitude of our duty; if the present political aspect of our affairs is not enough to admonish us of the approach of the ides of March; if the necessity of adapting the education of our citizens to the stations which they respectively may wish to fill, be not clearly indicated by the ordinary principles of human nature, I am at a loss to conceive the motive, which could tend to elevate to the rank of one of the most honourable and useful professions, the now humble and undignified vocation of the overseer. Exercising in public esteem a degrading function; hence, receiving but an inadequate compensation for his services; unaided by the moral power which education imparts, and, but seldom, or never cheered by the avowed confidence of his employer; he moves and acts, as though the prospect of temporal preferment were but the illusion of the brain.

The necessary effect resulting from the contemplated Professorship, provided the Lectures on Agriculture be a component part of the Student's collegiate course, will be a salutary change in the feelings and opinions of the Students themselves in relation to husbandry. The subject is intrinsically of a nature so fascinating, that it requires to be but superficially understood, to induce even the prejudiced to search diligently for the inestimable learning it discloses. I care not what course of life the pupil may have determined to pursue, a knowledge of the elementary principles of Agriculture will contribute materially to his stock of that species of intellectual wealth, which can always be advantageously disbursed. It would be hazarding but little, to reflect, that there will annually, leave College, numbers of youth, deeply imbued

\* To the gloomy description here given of our overseers, there are many and honourable exceptions; and I state with pride and pleasure that, as a class, they are gradually improving in morals, education, and general worth.

with the high sense of the rank and dignity of the profession of the husbandman. Their opinions, founded on reflection and study, must, in time, effect a highly beneficial reform in the sentiments of every calling in society. In penetrating the vista of futurity with the mental vision of a weak and erring mortal, I behold in anticipation the attainment of the very end which my best reflections lead me to infer will ensue from the system referred to. I allude to the establishment of Agricultural Schools.

*"Fellow-Citizens!"*—They must sooner or later be identified with your schemes of policy—your best interests require it—your individual prosperity and the safety of your domestic institutions demand it—philanthropy, and the fundamental principles of our government invite your zealous co-operation in the enterprize. In Europe, where the double doctrine of Machiavel is the main spring of every political action, and where the press reflects only the will of the monarch, it has long since been adjudged necessary and politic to instruct the people in the theory of husbandry. Whence this departure from a vital tenet of their government? Why so adventurous a project, when satisfied of the truth, that knowledge is power? A solution of this apparent enigma is to be found in the practical acknowledgment, that Agriculture is the basis of national wealth. The first Agricultural School in Europe, was founded at Milau in 1770. It is not known what has been its fate. Schools are now established in Switzerland, Prussia, Italy, France, and the Austrian States.\* The most celebrated, is that at Hofwyl, in Switzerland, erected by M. de Fellenberg, to improve "the art of cultivation and the character of the cultivator." The best evidence of the success of that institution, is, that its pupils are employed at high salaries in various parts of Europe, to superintend and direct the labours of Agriculture. With such examples before us, fellow-citizens, we cannot much longer hesitate. "It fills me with astonishment," said Columella, the Roman, "that while those who wish to become orators always have recourse to one as a teacher whom they may take as a

\* The only Agricultural School in the United States, is the Rensselaer School, at Troy, in New-York, alike distinguished for the originality of its conception, and its practical utility.

model—and those who learn music, dancing, or any other of the lighter and more frivolous accomplishments, employ, of course, a professed teacher—Agriculture, that most important of all arts, has neither masters to teach it, nor pupils who seek to be taught. Is there then nothing in it which requires to be studied? Is there nothing to reward research?" "For myself," he continues, "when I take an enlarged view of this noblest of all pursuits, and survey it on all sides, and consider what it embraces, that it would be profitable to know, I fear, that I shall see the end of my days, before I shall become a thorough master of all its mysteries." In now-a-days, sowing, reaping, and the general process of cultivation, are viewed as mere mechanical operations, as easily accomplished by the idiocy of the Hindoo, as by the skill and judgment of the experienced farmer; and, in allusion to this State, the youthful planter is led to expect a fortune, without having been taught "a single quality which can preserve or acquire one." To the prevalence of such false and dangerous notions, poverty has been the lot of many, who, if nurtured in a School of Agriculture, would have been active and efficient promoters of the public weal. In such an event, they would, at least, have added their contingent to the mass of productive industry.

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*On the Effects of Emigration.*

*Mr. Editor,*—The proceeds of the public lands received at the United States' Treasury, amount to six millions of dollars. The gross amount of these sales have been estimated at eleven millions. It is important to Southern Planters to ascertain what proportion of these lands are destined to slave cultivation. Experience proves that slave labour is most productive when applied to those fresh lands, whose products form the valuable staples of cotton and sugar. In the fertile vallies of the South-Western States, the product of a negro's labour, sometimes equals his original cost, and the land from which this great return is gathered, is frequently purchased at public sale for \$1.25 per acre, or from speculators, at ten times that sum. Making every allowance for deceptive statements, the demand for negroes at the West, and their enhanced value in every market, seem to establish the positions; first—that a large portion of the public



lands has been purchased for their cultivation; and secondly, that their natural increase is not sufficient to supply the demand. The whole coloured population has been estimated at two millions; the usual calculation allows one-half of a given number of slaves to be operatives; ten or twelve acres is the usual quantity cultivated by one hand in the South-Western States; if, therefore, the whole amount of the public lands, sold last year at one dollar twenty-five cents, were immediately brought into culture by slave labour, it would require nearly all the coloured population of the Union, to cultivate the lands sold by Government in one year. It follows, that if one-half of the lands were bought by speculators, it would require one-half of that population to cultivate the remainder. This conjecture approaches nearer to fact, if the lands of Texas cultivated by American emigrants, be added to the amount. That the natural increase of these people can never supply the Western demand, is proved not only by their enhanced value, but by other circumstances. Those employed in the culture of rice and sugar, seldom increase more than to supply the vacuum made by disease and age: and on some of the most fertile rivers, where those productions are cultivated, they actually decrease, and their numbers are replenished by purchase.

Under this view of the subject, it is easy to account for the continual emigration from the old to the new States; especially of that part of our population adapted to field work in a sultry and sickly climate. The young and enterprising slave-holder, finds it his interest to sell or abandon his lands in the Atlantic States, and remove with his force to the West, where the first or second crop of cotton, pays the cost of his land, and the expense of removal. Those, who are neither young, nor enterprising, and who feels an attachment to home which no prospect of gain can impair, are nevertheless tempted to sell their negroes to the Western emigrant, under the conviction, that the purchase money vested in bank or other stock, will yield a higher interest than the proceeds of their crops. As this conviction increases, the first result will be a diminution in the demand for the lands from whence these people are removed, and the consequent fall of price.

The next result, and one not so deplorable, will be an alteration in the mode of culture. Instead of continuing the present system, the sons of Carolina who have taken root in the soil, and can neither abandon the home of their fathers, nor the practice of Agriculture, must compete with the farmers of the West, by adopting their mode of cultivation. They must substitute animal for human labour, improve the implements of husbandry, and employ machinery wherever it is practicable. With this change, our agricultural existence may be prolonged, and the loss of part of its vital power will best prepare us for the alteration. When the land adapted to cultivation shall exceed the force left in the country, the natural result will be an increase of the quantity cultivated by each hand, and a gradual change from the plantation system to that of the farm. I propose to suggest some hints for such alterations in a future number.

Your's, respectfully, &c.

C. C. PINCKNEY.

*Pendleton, (S. C.) Feb. 1836.*

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*Potato Cultivation.*

John's Island, February 22, 1836.

To the Editor of the Southern Agriculturist,

*Sir.*—Sweet potatoes constitute so important a branch of our provision crop, that I cheerfully comply with your request, for such information as I might possess as to the mode of cultivating them—and with that view proceed to state some facts which have come within my own observation and experience.

I have frequently heard the opinion expressed by planters, that land may be made too rich to produce potatoes; but my own experience has been the reverse. With me, the richer the land, the greater the product. The error, as I consider it, has arisen from gathering the crop on the richest land first, whereas, it should remain for the last. Potatoes in land moderately manured, will arrive at maturity before those produced on very rich land; but the latter, when matured, will be much more abundant. I noticed this difference about 25 years ago. On the 10th of August, I caused part of a row to be dug in land that had been very highly manured by cow-penning. The vines were very luxuriant, and I found the young pota-

toes very numerous ; but few of them were as large as a man's finger. At the same time I tried a row in a weaker spot, where the beds had been trenched, and manured in the trench with compost from pens, and the potatoes laid on the surface. Here the potatoes were large, but yielded only about *one* bushel to the row. Early in the following November, the remainder of the row that had been first tried in August, was dug in my presence, when it yielded *four* stick baskets, heaped up, of very large potatoes, and *one* of smaller ones. On making a fair calculation, based on the produce of the row thus measured, the produce of the whole acre was estimated at 420 bushels. Many of these potatoes were too large for the depth of mellow earth, and their tops, in consequence, projected out of the beds. They were of the kind having red skins, with yellow hearts, and the land on which they grew was prepared and attended with the hoe in the usual way. The following memorandum, made on the 6th December, 1823, are extracted from my plantation book.

“ In the month of March I prepared  $4\frac{1}{2}$  acres of old field, flat, heavy, loamy land, for sweet potatoes, in the following manner. The beds were tracked off five feet apart, with a bull-tongue plough, and listed with the hoe. The space, between, was then broken up with the eagle-plough. About three-quarters of an acre of the ground had been recently manured by sheep and cattle penned on it, and was supposed to be sufficiently rich. Two and three quarters of an acre were manured with a compost of broom-grass, dry marsh and animal manure trodden together in my winter pens ; and the remaining acre with dry pine trash simply—both of these kinds of manure were deposited in the proportion of one cart load to each row, and were afterwards spread over the listing. I then had the listing trenched down to the general level of the land, and whole seed-potatoes laid lengthwise in the trench, about six inches apart. Over these, successive layers of earth were thrown by the dagon-plough, from each side of the listing alternately, until the alleys were entirely furrowed up. The clods of earth were then broken, and the beds finished off with the hoe. The seeds being buried, by this process, five or six inches deep.

On the 6th of December, a month after the vines had been killed by frost, I gathered in the potatoes from one acre of the above described land, (the rest having been previously consumed as provisions for my people and stock.)

When $\frac{1}{2}$ an acre of leather coats	yielded	185	bushs.
$\frac{1}{4}$ acre of yams,	do.	72	do.
$\frac{1}{4}$ acre of red skinned with yel- low hearts,	} - - -	136	do.
Total,		393	do.

From this it appeared that the yellow hearts yielded at the rate of 554 bushels per acre. The yams, 288 bushels, and the leather coats, 370 bushels. But such a number of leather coats of the largest size were found rotten, when turned out of the earth, as to induce the belief that the product from them was the greatest. The land on which they grew was manured with the compost mentioned above. The yellow hearts were manured with pine trash only. The yams grew in the cow-penned land. None of the latter, and but few of the former were found rotten."

I have found it advantageous to plant potatoes in trenches, made on the listing, as above described, covering the seed to about the depth of three inches at first, and hauling up, at each working, as much earth as is necessary to smother the grass while young, thus adding gradually to the size and height of the bed. Care should be taken, however, to keep the shoots supported in an erect position, by the earth thus drawn up, until the bed has attained the usual size, when they may be left to run at large. If managed in this way, the mother-potato, when dug, will be found at the depth of nine or ten inches, not enlarged, (as is the case when planted shallow) and its progeny produced between itself and the surface of the bed, on offsets at every point of the long stem. I have counted upwards of twenty potatoes attached to a single stem. The potatoes cultivated in this way are assimilated to early slips, produced from vines, and may be kept sound for nearly as long a time.

The product from large seed is earlier, and of a greater size than from small seed. In planting the yellow hearts,



if cut, only the stem ends should be used, as the other part very seldom sprouts. I prefer to plant all sweet potatoes whole, but in that case, they must be managed as above. If planted shallow in a large bed, the mother-potato will grow large, and produce an abundance of early vines, but few new potatoes.

With respect to slips, I have found the following plan best. Cut the *earliest* vines when between eight and twelve inches long, and lay the cuttings two inches apart, in deep chops made across the beds about one foot apart, placing three or four cuttings in each chop, and covering them up for three-fourths of their lengths. The beds should be shallow at first, and afterwards enlarged by the successive haulings of earth necessary to destroy the grass.

Vines cut off close to the main stem, have many short joints, and will produce early, and abundantly. When they have been allowed to grow long before being severed from the stem, it will not do to cut them into pieces for planting. They must then be planted in the usual way; that is, by being laid lengthwise along the top of the beds, and covered at intervals with small hills of earth.\*

In comparing the different kinds of potatoes, I have come to the following results:—

The leather coats are the earliest in maturing, and produce abundantly, but do not keep well.

The red skinned with white heart, are next early—they do not produce as well as the former, but keep better and are more hardy, producing sooner, and resisting cold in the ground better.

The red skinned with yellow hearts mature almost as early as the red with white hearts, and keep better; they are equally productive with the leather coats, perhaps more so.

\* In gathering the crop of slip potatoes, after cutting off the vines, with the hoe, throw off one furrow from each side of the bed with the dagon, eagle, or shovel-plough, instead of the hoe; and much of the labour will be saved; but care should be taken not to permit the plough to pass into any spots of land infested with nut, or wire grass, or it will spread those pests of the field.

Much time and labour may also be saved by carting, instead of carrying on the head to the cellar. The bottom of the carts should be covered with vines, and the whole load must slide out together.

The yams keep best of all the kinds I have tried—and produce well, but not so abundantly as the leather coats and yellow heart.

The Spanish are finely tasted, but, with me, a scanty bearer. I seldom plant them.

Much of what I have said, though, perhaps, superfluous to many planters, may be useful to others. If you suppose that the whole, or any part of this communication will promote the laudable objects of your periodical, you are at liberty to make use of it for that purpose.

I remain, with respect, your obd't. serv't.

KINSEY BURDEN.

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*The Blue Bug.*

To the Editor of the Southern Agriculturist.

Sir,—Will you be good enough to make inquiry through your useful publication from some practical gardener, what is the cause of a small blue insect apparently lifeless, that attack and destroy most of the cabbage tribe, (with the exception of the green glazed) in the fall and winter months, and how is it to be prevented or destroyed? I have sprinkled the plant with a mixture of soot and wood ashes, and also tried flour of sulphur, but without effect.

I am, Sir, with respect, your's, &c.

R.

Charleston, 27th February, 1836.

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## PART II.

### SELECTIONS.

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#### *Practical Details of Manuring—Singular Collection of Shells and Bones.*

[FROM THE FARMER'S REGISTER.]

Charles City County, December 26, 1834.

IN compliance with your request that the members of the agricultural community contribute to advance the interests of agriculture through the medium of the Farmer's Register, I have determined to throw in my mite, contenting myself with the reflection although this communication may fail to afford either interest or pleasure, yet the motive and object will be duly appreciated, and the manner and matter receive the indulgence of an enlightened community.

The farm on which I reside is a grey soil, lying on a substratum of yellow sand, with the clay at the distance of from eighteen inches to two feet below the surface. It had been reduced to the lowest degree of poverty by the system practised by our ancestors, when I came into possession of it in 1823. I immediately cast about in my mind for means and resources for improvement. The object was to sustain my family, and at the same time improve some land. I therefore immediately enclosed a lot of ten acres, which was improved and cultivated in corn and peas for several years in succession. The corn was planted five feet each way, with as many pea hills as corn hills. It was gathered and shucked out as early as the corn would bear gathering, and my hogs turned upon the peas. This lot added from sixty to eighty barrels of corn to my crop annually, whilst the peas assisted very much in fattening my hogs. Indeed, I know nothing better than a field of green peas to put hogs in a thriving condition, and prepare them for the pen. Another lot of eleven acres was now added to the first, improved and cultivated for several years in succession (through necessity) either in corn or wheat. The production of these lots very soon convinced me of the value of improved land—having reaped for two crops in succession, twenty bushels of wheat for one seeded, from land, which had not within the memory of any man living, produced more than five or six for one. Having now come into possession of other land, I was enabled gradually to extend my improvement to the field-system, collecting materials from every resource in my power, which are carried through the stables, farm pen, hog pen, &c.

The farm pen, or shelter, is situated about the centre of my arable land—within forty yards of the barn and stables, where each field

corners. It is built of pine slabs on cedar posts put in the ground in the form of an octagon, closed entirely around except a space of fifteen feet on the south side to admit the stock. The yard is graduated to the centre in the form of a shallow basin, which receives the water, and retains it in the vegetable mass, and being too shallow to retard decomposition or putrefaction, yet retains the essence of the manure, so that nothing is lost. In this pound the cattle are penned every night through the year, and during the winter both day and night, except for a short period in the evening, when they are turned out to water. I know that in this respect my practice is different from most of our best and most experienced farmers: but from experience I am induced to believe it suits my situation and circumstances better than the more common mode of summer cowpens. The stables are well supplied with a fresh bed of litter every night, and their contents suffered to remain until the mass becomes twelve or eighteen inches thick, when they are cleaned out, and the manure removed immediately to the standing farm pen, spread regularly over the yard, and covered with straw or pine leaves. I always prefer removing the stable manure to the farm pen during a rainy season, or to anticipate a rain, as the essence of the stable manure will be immediately carried down into the bulk below, and mixed with the whole mass. Loads of pine litter from the woods are always carted in, previous to carrying in the stable manure, for the purpose of protecting it from the sun and atmosphere.

Under this system the additional labour of hauling the manure made in summer to the field is incurred, but I am satisfied that a much larger space can be manured during the same period, than by the usual mode of summer cow pens. I act upon the principle that labour directed to the raising and applying manures rarely, if ever, fails to remunerate the farmer—one acre of good land being, in my estimation, worth ten, or perhaps twenty, of such as is really poor. This farm pen is cleared of its contents twice a year, in December and April. The manure accumulated from the last of April to December, is then carried to the field intended for corn, deposited in heaps according to the strength of the land, and is covered with common earth, if it is to remain for even a few days before being turned in the land. The manure is thus protected from the sun and atmosphere, and a portion of that which would have escaped, imbibed and retained by the cover of the earth, which becomes the more readily mixed with the soil to assist in the process of vegetation. A brisk boy of fourteen or fifteen years old will cover the heaps of manure as fast as a good team of oxen and three horse carts can carry it into the field—say a distance of 700 yards. The manure made during winter is all carried out and ploughed in, as before observed, for the corn crop in the spring, and the only litter used in the farm pen up to this period, consists of straw and pine leaves. Immediately after carrying out the manure in spring, we commence carting in corn stalks, which is continued until they are all used. This mode of using the corn stalks is preferred, because they are not so soon converted into manure as straw, or litter from the woods, and they have a longer period to remain in the farm pen through summer.

All the manure made is applied to land previously marled—a very fine bed of which I have near the centre of my arable land. My marl is that which I think is generally termed yellow, being a decomposed mass of various kinds of shells tinged with clay. No sand is discover-



ed in it. I have applied only 200 bushels to the acre, and believe from several experiments made on a small scale, that quantity sufficient for my land. There are several indications of marl in my neighbourhood—and a deposit has recently been discovered of very good quality. I have but little doubt that many deposits of this valuable manure are yet to be discovered, and that our worn-out and neglected country is destined to be brought to a state of gradual improvement.

On my friend Col. J. S. Stubblefield's farm, on Chickahomony, there is found a curious deposit of muscle shells, extending on the bank of the river about one hundred and fifty yards on a level with the flat land, and covering a breadth of from thirty to forty yards. These shells are found on the surface, and extend to the depth of from three to four feet, imbedded in rich black mould. This deposit contains a considerable portion of carbonate of lime, and has been used extensively by Col. S. who is an industrious and enterprising farmer. In this deposit of shells are found a number of human bones of all sizes, from the smallest infant to the full grown man, interred in pits of various size, and circular form; and in each pit are found intermingled, human bones of every size. Standing in one place I counted fifty of these hollows, from each of which had been taken the remains of human beings who inhabited this country before the present race of whites. These remains differ in several particulars from the Indian burying grounds heretofore discovered among us. Might they not furnish curious matter of speculation to the antiquarian? It is time I should bring this desultory communication to a close.

JAMES H. CHRISTIAN.

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### *Manures.*

[FROM LOW'S ELEMENTS OF AGRICULTURE.]

ALL substances which, when mixed with the matter of the soil tend to fertilize it, are, in common language, termed manures.

Manures may be composed of animal or vegetable substances; or they may consist of mineral matter; or they may be partly derived from mineral and partly from animal and vegetable substances. They may therefore be classed, according to their origin, into—

1. Animal and vegetable manures,
2. Mineral manures,
3. Mixed manures.

In describing this class of substances. it is not my design to treat of their chemical mode of action. This investigation forms one of the most interesting parts of the chemistry of agriculture; but it is not essential to that practical knowledge of the subject which will suffice for the common purposes of the farmer. The remarks to be made, therefore, on the mode of action of these bodies, will be of a very general nature.

1st *Animal and Vegetable Manures.*—Chemical analysis shows us, that all plants, and all the products of plants are resolvable into a small number of simple bodies, in various states of combination. These bodies are—carbon, hydrogen, oxygen, and in smaller quantity, nitrogen or azote. These form the essential constituents of all vegetable substances. But there are likewise formed in plants, though in comparatively minute quantity, certain other bodies, consisting chiefly of the four earths, silicia, alumine, lime, and magnesia, of

the oxide of iron, and of the alkalies soda and potassa, but chiefly the alkali potassa.

Now, all these bodies, or the elements of all these bodies, exist in animal and vegetable manures; for these being animal and vegetable substances are resolvable into carbon, hydrogen, oxygen, and nitrogen, with the intermixed earthy and other bodies, existing in the living plants.

In supplying, therefore, animal and vegetable substance to the soil in a decomposing state, we, in truth, supply the same substances which enter into the composition of the living plants. The substances indeed exist in the dead matter of the manures, in states of combination different from those in which they exist in the living vegetable; but still they are present, and must be believed to supply the matter of nutrition which the plants in growing require. Science has made known to us the truth, that the living plants and the dead manures are resolvable into the same elementary substances; but experience has not the less taught the husbandman in every age, that all animal and vegetable substances, mixed with the matter of the soil, tended to fertilize it, by affording nourishment to the plants which it produced.

The simple bodies which form the substance of manures exist in various states of combination, and often in the solid state. Now, there is reason to believe, that, in order that these solid matters may be absorbed by the roots of the growing plants, they must be dissolved in water. The absorbing pores of the roots of plants are so minute, that they are only to be discovered by the microscope. The solid bodies, therefore, which find their way into these pores, may reasonably be supposed to be held in solution by that aqueous matter which enters into the roots of plants, and forms the sap. Water is apparently the medium by which all the matter of nutrition, in whatever form, is conveyed into the roots of plants, and without which, accordingly, vegetation is never known to take place.

Holding this opinion to be just, the substances which form vegetable and animal manures, before they can be rendered available, as nutriment to plants, must be rendered soluble in water.

Of the means which nature employs for this purpose, fermentation appears to be the chief. By this process, the elementary parts of the substance fermented assume new forms of combination, and become fitted to supply the matter of nutrition to plants in that form in which it can be received, by the pores of the roots. The fermentative process is completed after the substance to be used as a manure is mixed with the matter of the soil; but it is common also to cause it to undergo a certain degree of fermentation before it is mixed with the earth. This is the method of preparing this class of manures for use, which is employed in the practice of the farmer.

Animal matters decompose with facility when acted upon by moisture and the air, the greater proportion of their elementary parts making their escape in various forms of gaseous combination, and leaving the earths, alkalies, and carbonaceous matter remaining.

When this decomposition takes place beneath the surface of the ground, these gaseous compounds, as well as the carbon, (which there is reason to believe assumes also the gaseous state by combining with oxygen,) may be supposed to be partially or wholly retained in the earth to afford the matter of nutrition to the plants.

Purely animal substances, therefore, which thus readily decompose, do not absolutely require fermentation before they are mixed with the soil. Yet even in the case of purely animal substances, certain beneficial consequences result from subjecting them to a previous state of fermentation. Thus the urine of animals, when applied in its recent state to the soil, is not found to act so beneficially as a manure, as when a certain degree of previous fermentation has been produced.

And there is another purpose promoted by causing even pure animal matter to undergo fermentation, and this is, that, being mixed with vegetable matter it promotes the more speedy decomposition of vegetable fibre.

Vegetable fibre is, under certain circumstances, a slowly decomposing substance. When vegetables are green and full of juices, they readily ferment; but when the stems are dried, as in the case of straw and other litter, they decompose with slowness, and the mixing them with animal matter hastens the putrefactive fermentation. This mixing of animal with vegetable matter is the process employed for preparing the greater part of the dung of the farm-yard.

The dung of the farm-yard is the produce of the hay, straw, turnips, and other substances used as forage or litter upon the farm. It is collected into one or more yards, and fresh litter and all other refuse being added to the mass, it gradually accumulates, until it is carried out to the fields for use.

The manner of feeding cattle in their houses and yards will be afterwards explained. It is sufficient with relation to the present subject, to observe, that the larger cattle may either be fed in stalls in close houses, or in yards in which they receive their food. When they are fed in close houses, their dung and soiled litter are carried to the heap in the yard, where it gradually accumulates, and when they are fed in the yards, their dung, in like manner, accumulates there, being in the mean time compressed by their treading upon it.

In the practice of the farm, to be afterwards especially described as suited to the circumstances of this country, the larger cattle of different kinds are brought home to their houses and respective yards before winter. Some are kept in their stalls in close houses, and their dung and soiled litter are carried out daily to the yards, whilst others receive their food in the yards themselves, and thus tread upon the heap. In this manner the mass of dung accumulates during the period of feeding, and at the proper period, in the following spring or summer is carried out to the fields and applied to the land.

The dung of the farm-yard is thus sure to be a collection of animal and vegetable substances. It consists of the excrements of the animals kept and fed upon the farm, together with the straw or other materials used as litter, and generally of the refuse and offal produced about the homestead. This mixed mass is collected during the period of feeding, when it undergoes a certain degree of fermentation. When trodden by the feet of the animals kept in the yard, the effect is to exclude the external air, and to prevent the fermentative process from proceeding with that rapidity which would take place were the mass not compressed.

The principal animal substances which are mixed with the ligneous fibres of the litter, and which cause it to undergo decomposition, are the dung and urine of the animals.

The properties of this dung, to a certain extent, depend upon the kind of animals, and the nature of their food. The dung of horses

is easily fermented, and is more readily decomposable in proportion to the succulence and nutritive qualities of the food consumed. This also holds with respect to the dung of oxen. When the animals are fed on straw and the dried stems of plants, the dung is less rich and decomposable than when they are fed on turnips, oil cake and other nourishing food; and the same thing holds with respect to the dung of the hog and other animals. The dung of the different feeding animals is mixed in the greater or less proportion with their litter, and the greater the proportion of the animal to the vegetable matter, the more readily will it ferment and decompose.

The urine of the animals, again, is in itself a very rich manure, and contains, in certain states of combinations all the elements which enter into the composition of plants. It is necessarily mixed with, and partly absorbed by, the litter and other substances in the yards, of which it hastens, in a material degree, the fermentation.

The urine, however, is apt either to make its escape by flowing out of the yards, or to be imperfectly mingled with the litter. It becomes, therefore, a part of the management of the farm-yard, to provide against either of these contingencies.

The farm-yard should be made level at the bottom and paved if the sub-soil be loose and sandy, and the bottom should be sunk somewhat below the surface of the ground. As a portion of the liquid will flow from the stables and feeding houses, gutters of stone should be made to convey the liquid from these into the tanks or other reservoirs adjacent to the yards. The same means are to be taken for conveying away any excess of liquid from the yards themselves. This is not done for the purpose of draining the yards of moisture, which would be an error, but for the purpose of preventing any excess of liquid from being lost. The principal cause which produces a great flow of liquid from the yards is an excess of rain, which, falling upon the heap faster than it can be absorbed, washes away the urine.

Three methods may be adopted for the management of the liquid which is obtained from the feeding houses, or which oozes or is washed off from the mass in the yards.

1. It may be pumped from the tank or reservoir into which it had flowed, conveyed back to the farm-yard, and spread over the surface of the heap. In this manner it will be imbibed by the litter, and tend to hasten the decomposition of the mass.

2. It may be pumped up when convenient, and conveyed in barrels to the field, and spread over the surface, a species of manuring which, under certain circumstances, is exceedingly efficacious.

3. In the bottom of the tank or reservoir to which the liquid is conveyed, may be placed absorbent earths, stems of plants and other matters. These being saturated, will become very rich manure, and may either be carried from the tank to the field, and applied to the ground, or put into heaps or composts, until the period of using them shall arrive.

This method of collecting the excess of the liquid from feeding houses, and yards, is perhaps the best in the common practice of the farms in this country. In Flanders, where extreme care is bestowed in the collection and preparation of liquid manures, there is a smaller proportion of straw and hay produced on farms, than in the mixed system of agriculture of Britain. There is not, therefore, so great a proportion of ligneous fibre to be decomposed. The Flemings, accordingly, pursue the mode of managing their manure, which the



circumstances peculiar to their agriculture render expedient. They can always ferment sufficiently the fibrous matter of the heap of their farm-yards, and therefore they have always a spare supply of liquid in a separate state. But in this country, where we aim on producing a large quantity of hay and cereal grasses, we require nearly all the liquid from the feeding animals, to moisten and ferment the general mass of the farm-yard.

When the animals of the farm are fed on tolerably rich and succulent food, and when the proportion of straw is not too large, there is no difficulty in fermenting the mass of the farm-yard to the degree required; but when the quantity of straw is very large in proportion to the more moist and succulent food consumed, as sometimes occurs in the case of clay land farms in certain districts, then there may be considerable difficulty in getting the straw sufficiently fermented and decomposed for use. This may arise from want of moisture, as well as from a deficiency of animal matter; and as we may not at the time have the power of supplying the latter, we must endeavour to keep the heap moist by soaking it, in the absence of rain, with water. But the permanent remedy for this evil is to increase the quantity of such nourishing food as the farm will produce—namely, cabbages, tares, clovers, and other succulent and nutritive plants.

Sometimes, even when there is no extraordinary excess of dry litter, the fermentation of the heap in the yard after proceeding to a certain degree, suddenly stops, by which the manure is much injured. This action is termed *fire-fanging*. It arises from the want of moisture, and when it happens it is often very difficult to renew the fermentation. The best remedy is to turn over the heap, soak it with water, and mix it with horse dung, or any animal offal that can be obtained.

With these exceptions, the management of the farm-yard is not attended with any difficulty. We have seen that the mass consists of a collection of the excrements of the animals kept upon the farm, of the straw and other substances employed for litter, and generally of any refuse or offal produced at the homestead; and that this mixed substance is accumulated chiefly during the months of winter, undergoing during this period a certain degree of fermentation and decomposition in the yard where it lies.

The substance thus collected and partially fermented, is to be applied to the grounds during the months of spring, summer, or autumn, immediately following the winter in which it has been prepared. It should be always applied as soon after it is prepared as possible, there being a waste either in retaining it too long, or in causing it to undergo a greater degree of fermentation than is required.

In the process of the putrefactive fermentation, the elements of the body fermented, in assuming their new forms of combination, partly make their escape in the gaseous state. In the fermentation of manures the decomposition may proceed so far that the great mass of the substance shall be exhaled, leaving behind only the earthy and alkaline, and a portion of the carbonaceous matter of which it is composed. In the treatment of this class of substances, therefore, the putrefactive fermentation should neither be continued longer, nor carried to a greater degree than is necessary for the purposes intended.

In practice, our object is to produce certain kinds of crops; and certain kinds of plants, it is found, require a greater action of manures at particular stages of their growth than others. Thus the tur-

nip, the carrot, and the beet, which are sown, as will afterwards be seen, in the early part of summer, require that the manure applied shall be in such a state of decomposition as to act upon and nourish them in the first stages of their growth, and if this be not so, the crop may entirely fail. In these and similar cases, accordingly, a complete preparation of the farm-yard dung is an essential point of practice.

Certain plants, again, do not require the same state of decomposition of the dung. Thus the potato requires less in the first stages of its growth, than the turnip, and hence it is not necessary to subject the manure to be applied to the same degree of fermentation.

In some cases, too, as in the process of the summer fallow, to be afterwards described, The manure is mixed with the soil sometime before the seeds of the plants to be cultivated are sown. In such case the manure undergoes the necessary fermentation in the soil itself, and does not require that previous preparation which, in the case of the turnip and some plants, is required.

But where no necessity exists for fermenting the matter of the farm-yard beyond the degree requisite for the special purpose intended, it is always a point of good practice to ferment it to that degree. In order to know when dung is sufficiently fermented for the particular use required, a very little practice and observation will suffice. When it is fully fermented, the long stems of straw which formerly matted it together, are in such a state of decomposition, that the parts can be readily separated by a fork. It is not necessary in any case that it be in that extreme state of decay in which we often see it used by gardeners, and when it can be cut with a spade like soft earth. Whenever farm-yard dung has been fermented to this degree, it has been kept beyond the proper time, and the management has been bad.

The mass, we have seen, is collected chiefly during the months of winter, and will always be ready to be applied to the ground in the spring, summer, or autumn immediately ensuing; and there is no case in which it is advisable to keep it beyond the year in which it has been collected.

The common and convenient practice, is to carry it out from the yards where it has been collected, to the field where it is to be used, and there to pile it up in one or more large heaps, so that it may undergo the further decomposition required, before being applied to the land.

When, accordingly, after the dead of the winter, as towards the end of December, and during hard frosts and snows, the men and working cattle upon the farm cannot be otherwise employed, we may begin to carry out the dung to the fields where it is to be used. It is carried out in the carriages of the farm, into which it is lifted by large forks to be afterwards described. This partial carrying out of the dung from the yard proceeds when occasion offers, or when the state of the weather prevents the other labours of the farm from being carried on. And when the feeding cattle are finally removed from the houses and yards, and turned out to pasture, which, in the north of England, is generally by the middle of May, the whole remaining dung may either be carried to the fields, or remain in the yards till required for use.

The dung, as it is carried out in the fields, is to be laid in the large heaps, which may be about four, and four and a half feet high, and of such other dimensions as may be convenient. When the dung is

placed in these heaps, it is in a state very favourable to further fermentation; for it is to be observed, that in all cases, the turning over of the dung, so as to give access to the air, causes an increase of fermentation, and this is the method adopted by farmers and gardeners, when they want to give a greater degree of fermentation to any heap. Should the dung in these large heaps not ferment to the degree required, they are to be turned over, and formed into new heaps, the upper part being placed below, and what was before below at the top. By this means the fermentative process will be renewed: and should this turning not be found sufficient, the heaps must be again turned over, so that they may be brought to the degree of decomposition required. The large heaps of this kind should not be placed in a very exposed situation, so as to be too much acted upon by the winds, and it is often a good precaution, and a necessary one in very warm countries, to face up the sides with a little earth or turf, and to strew some earth upon the top so as to prevent the escape of decomposing matter. When it is wished to hasten the putrefactive process in these heaps, it is better that they be not compressed by the carriages going upon them to unload; but where there is no peculiar necessity for hastening the putrefactive process, the carriages and beasts of draft can go upon the heap without injury. When peculiar care is required, as when the dung has been injured by fire-fanging, or otherwise imperfectly fermented in the yards, it should be spread over the heap in layers, so that one layer may undergo a slight fermentation before it is compressed by that which is to be placed above it.

Sometimes the mass may be turned over in the yards where it lies, and allowed to ferment before it is carried out to the fields for use. In this case the workmen begin at one side of the heap and with large forks, turn it over, laying that which was before uppermost underneath, so as that the whole may be reversed. If after this process of turning, no treading of cattle is allowed, the fermentation of the mass will proceed with rapidity, and then the whole may be led out at once from the yards to the fields for use.

When the dung produced is very rich and well decomposed, as when cattle have been feeding in stalls on juicy and nutritive food, it may not appear to require this turning over to fit it for use; yet, even in such a case it is generally beneficial that it be turned over at least once before being used, the effect being to ferment the mass not only sufficiently, but equally, and to mix its different parts together. It may be observed also, that when the mass of vegetable and animal substances is thrown into a common yard, some care should be bestowed in spreading it equally, so that one part of the yard may not be filled with rich dung, and another with poor. The dung of horses, for example, is more susceptible of quick fermentation than that of oxen. When the stable, therefore, opens upon a common yard, the horse dung should not be suffered to accumulate in a mass about the stable door, but spread abroad upon the heap.

Farm yard dung is chiefly applied to the soil, by being spread upon the land when in tillage, and covered by the plough. The periods at which this is done, and the manner of doing it, will be afterwards pointed out. By being covered by the earth, the dung soon passes through its course of fermentation, and becomes decomposed and mixed with the matter of the soil.

This valuable substance must be economised in the manner of applying it. The soil must be kept as rich as the means at the farmer's

hands will allow; but it is an error in practice to saturate it at one time with manures, and to withhold them at another. They ought rather to be applied in limited quantity, and frequently, so as to maintain a uniform or increasing fertility in the soil.

The produce of the farm yard will necessarily afford the chief part of the manure consumed upon farms which do not possess extraneous sources of supply. But besides the produce of the farm-yard, there are certain vegetable and animal substances which in their separate states may be applied to the manuring of land. An example of the application of vegetable substances, in this state, is where certain plants are allowed to come in flower, and are then ploughed down in their green state, and mixed with the matter of the soil. This is a practice derived from very ancient times, and is yet followed in Italy, and other parts of Europe.

Vegetable matter when thus covered by the soil in its green and succulent state, readily undergoes decomposition, and forms a very enriching substance. The practice, however, is chiefly suited to the warmer countries where vegetation is very rapid, and even then it argues a somewhat low state of the art, and is not the best way for producing decomposing matter for manures. When we are able to raise green food of any kind, it is better that we apply it in the first place to the feeding of animals, for then it not only yields manure, but performs another and not less important purpose.

When, however, the practice is for any reason adopted, the period at which the plants should be ploughed down is just when they are coming in flower, for then they contain the largest quantity of readily soluble matter, and have the least exhausted the nutritive substance of the soil. The plants employed for the purpose by the ancients were chiefly the leguminous, as the Lupine, which is still used in Italy for the same purpose. Buckwheat is also employed, and appears to be the plant best suited for the practice in northern countries, for it is easily cultivated, and soon arrives at the necessary maturity. For the same reason, spurry has also been cultivated for this purpose: nay, the clovers have been thus employed at the suggestion of speculative writers even in England, and thus the error has been committed of employing a valuable article as a manure, which might have been employed in the first place in supporting live stock of the farm.

The leaves of trees also form a vegetable manure, though not a good one: for although leaves enrich, to a certain degree, the surface upon which they fall and decay, they will rarely pay the expense of collecting them expressly for manuring land.

The roots of plants disengaged from the soil in the process of tilling and cleaning it, are also employed as a vegetable manure. Some of these, however, as the couch grass, being very vivacious, would readily spring again; and therefore it is necessary that their vegetative powers be destroyed, which may be done by mixing them with lime, and forming in this way a compost. Many farmers, however, to save time, or to prevent the risk of the plants springing again, burn them in little heaps upon the ground at the time of their being collected, and spread the ashes upon the surface. This may be sometimes convenient, but the effect is, that the principal nutritive part of the plant is dissipated, and nothing left but the carbonaceous, earthy, and other insoluble matter.

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*New Mode of Rearing Asparagus.*

[FROM THE FARMERS' REGISTER.]

YOURS of 31st ultimo was received, and with great pleasure I now comply with your request to furnish you with my plan for making asparagus, which you are at liberty to publish in any form you may think suitable, provided you do not mention my name.

The asparagus seed should be sown from the middle of March to the last of April, in a rich spot,) not too much exposed to the mid-day sun,) one inch deep, and the seed one inch apart; after they come up, to be kept clear of grass and weeds during the summer, by hand weeding, to be dug up the next fall or spring—(I prefer the spring, as the roots do not grow during the winter, if set out in the fall, and are liable to be killed by a severe winter,) and set in beds prepared as follows: Dig out the size of the beds nine inches deep—cover the bottom three inches deep with rich marl, (which has been my practice,) though I believe that oyster shells half burned will be as good, as it is intended as a lasting heating manure to protect the roots in winter, and force the vegetable early in the spring: then put three inches deep of coarse stable manure, then three inches of rich earth. This brings the beds on a level with the surface of the earth. Next lay off the beds in rows eighteen by twelve inches apart, and put a single eye or spire in each spot where the lines intersect, and cover them three inches deep with rich earth. Plank the sides of the beds, as this prevents grass and other roots from running into the beds, and also keeps the outside roots from being exposed, by the sides of beds washing away. The beds should be kept clean by hand weeding, and all the earth and manure used in making them, should be perfectly free from grass roots and noxious weeds. In the fall of the year after the seeds have matured, cut the tops off close to the beds, (being careful that not a single seed is left to vegetate on the beds,) as they have already as many roots as the space they occupy should contain, and if additional roots are suffered to form from year to year from the falling of the seed every fall, the beds will soon be so much clustered with roots that the vegetable must degenerate, at least in size and length, as the new roots form near, or on the surface. Some prevent this by burning, but I think the best way is to pick them off by hand, before the ball that contains the seed breaks. You then top dress the beds with coarse stable manure, let it lie on all winter, and in the following spring rake off the coarsest part, and fork in the remainder, being careful that the fork does not touch the roots. Pursue this course two falls, and early in the third spring, before the beds are forked up, put on two inches of light well rotted manure—fork it in with the stable manure, then put on from three to four inches deep of clean sand from the river shore, and you will cut in the month of April the best vegetable we have in Virginia. I would not give my beds for the balance of my garden. I think there is much in the kind of seed. I obtained mine from New-York, they were marked "Giant Asparagus."

The cover of sand is important on several accounts: it being a great absorber of heat and moisture, so soon as the vegetable gets through the soil, it is hastily thrown through the sand to the surface in a bleached tender state, and the cutting from day to day is more

uniformly of the same tender delicious vegetable. The sand also prevents grass from growing on the beds, which obviates the necessity of so much hand weeding during the season for cutting, by which the beds frequently become trampled, and the vegetable that is about to come through the surface mashed down, which not only destroys the spires that are so trampled on by the gardener in the process of hand weeding, but (I think) injures the roots. The sand should be laid in the alleys between the beds, in the fall, when the beds are about to receive the top-dressing of stable litter to keep them warm through the winter; and when the sand is about to be replaced in the spring, it should be passed through a sieve of such size as will not let the balls (that contain the seed) pass through. This will be another means of preventing the seed from vegetating on the beds. There is a practice very prevalent with gardeners to plant lettuce, radishes, and other early vegetables on the beds; this should never be done, and particularly with radishes, as they have a long root that extends to the roots of the asparagus, and must seriously interfere with them.

I frequently cut asparagus from three to five and a half, and once I cut a spire six inches in circumference, and from five to eight inches long; it could have been cut longer, but it is never tender near the root.

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### On the Use of Marine Manures.

[FROM THE FARMERS' REGISTER.]

IT has often been to me a subject of surprise, that the various substances abounding on the shores of the Chesapeake and its tributaries, and which, for the want of a generic name, I shall class under the general head of *marine manures*, have attracted so little attention in Virginia. Whilst our more enterprising and industrious neighbours of Maryland, have by the liberal use of these means, been converting a barren and exhausted soil into fertile and productive fields, the farmers of Eastern Virginia, with the most abundant resources within their reach, seem to have been almost entirely ignorant of their value, or indifferent about their application. I deem it not amiss, therefore, to call the attention of the farmers on the tidewater to the value of these resources, by communicating for your Register, though in a hasty and imperfect manner, my experiments and reflections on this interesting subject.

Under the head of *marine manures*, I shall embrace, in the order of their respective values, sea weed, (*Alga Marina*,) or sea ware, as it is called on the Eastern Shore of Maryland; Indian bank shells, oyster shell lime, and marsh mud.

About two years ago, finding it utterly vain to attempt to improve a large and exhausted farm, by the unaided resources of the stable and farm yard. I determined to look out for some other means of improvement. I accordingly commenced, on my Potomac farm, vigorous and extensive operations, with the marine manures of which I have spoken. I committed a fatal error, however, at the outset, in adhering to the ruinous three shift system, without the aid of artificial grasses; upon which, I verily believe, no great or permanent improvement can be effected, with any thing short of a mountain of stable manure, and hands and teams without limit, to apply it. It is true, that upon this system, by great attention, and the regular ap-

plication of all the fertilizing means within the reach of our tidewater farms, crops may be considerably increased, and the land gradually improved: but let this great attention be in the least remitted, and the diminished returns of the farm will soon demonstrate the deterioration of the land. I have since adopted the four field rotation, with a standing pasture, and the extensive cultivation of clover; and I have no doubt I shall soon reap the reward of my labour, in the increase of my crops, and the permanent improvement of my land.

I soon found in the application of manures, that no great reliance could be placed on the occasional services of the farm hands and teams. I therefore detailed for that exclusive purpose a regular force, consisting of a man, a woman, and two small boys, just large enough to follow the carts, with two carts properly constructed, and an abundant supply of oxen. With this force exclusively devoted to collecting and carting out manure, I applied during the last year, upwards of 5,000 loads. The whole annual expense, including estimated wages, wear and tear of carts, &c. may be fairly set down at \$250, making the manure cost about five cents a load. Yet few of our farmers can be convinced that they can spare time and labour for this essential operation.

My farm bordering more than a mile on the Potomac, affords a fine opportunity for collecting the *sea weed*; and my principal and most successful experiments have been with this valuable manure. For nine months in the year, from the 1st of August to the 1st of May, it is in great abundance, and my carts have usually carried out, according to circumstances, from 15 to 30 loads a day. During the last year I applied to various crops about 3000 loads of this manure, and with great effect upon all. My first experiment was with corn. I applied it at the rate of about 70 loads to the acre, in the water furrows of a field intended for corn the next year, and listed upon it. The effect on the corn was immediate and powerful, doubling, I am confident, the crop on the poorest and lightest parts of the fields, and greatly improving it wherever applied. I next applied it on a piece of very poor land, at the same rate, and fallowed for wheat, leaving in the middle of the lot a space of two acres, unmanured, which had previously been sowed, as an experiment, with cow peas. The whole was put in wheat during the first week in September, 1832. The wheat on the manured land grew off beautifully, leaving far behind that on the other part of the lot. At Christmas it was exceedingly promising, but unfortunately having been sowed too early, the fly in the spring nearly destroyed it. During the same fall, I applied the *sea weed* as a top dressing to the poorest parts of my wheat and corn land: and in parts of the field I had it ploughed in with the wheat. Both applications produced most decided effects, the growth of wheat being thick and luxuriant on land which before this manuring was not considered capable of producing wheat at all. The fatal mildew, however, of the last summer, greatly injured the crop, although it did not affect those portions of the field, by any means as much, as other parts to which this manure had not been applied.

My next experiment was with oats, on which the effect of this manure was truly astonishing. I selected the poorest knoll in my field, bordering upon a small stream, along the side of which was a strip of land considered rich. I gave a liberal dressing to the knoll, and left the bottom unmanured, and fallowed during winter for oats, which were sowed in March at the rate of two bushels to the acre. When

I prepared this piece of land for oats, an intelligent neighbour and friend of mine remarked to me, that if I succeeded in getting a crop from it, he would never afterwards doubt the efficacy of *sea weed*.

We visited the farm together shortly before harvest, and he expressed the greatest astonishment at the growth of the oats. The line was distinctly visible which marked the extent of the manuring; the oats on the poor knoll being from six to twelve inches higher than those on the rich bottom. I verily believe I do not exaggerate, when I say that the oats were higher than some of the corn stalks of the crop preceding the manuring. I tried this manure also as a top dressing for oats followed by clover, with decided benefit on both crops. Its great efficacy in counteracting the effects of drought is very remarkable, and was strikingly exhibited in my field of corn during the excessive drought of last summer. The parts manured with *sea weed* continued green, long after the rest of the field had faded, and produced a tolerable crop, notwithstanding the great severity of the drought. I am now making an application of it, the operation of which I have yet to test. I am top dressing a field of clover sowed last spring, that I design to fallow for wheat next summer. I have been informed by an intelligent gentleman who witnessed the experiment in New-Jersey, that good farmers in that state purchase this manure on the sea-coast at 25 cents a load, and after carting it several miles into the interior, apply it with profit to their grass lands. I have little doubt that my experiment will be successful.

In an admirable treatise on agriculture in the New Edinburg Encyclopædia,\* the opinion is expressed, that "in one respect *sea weed* is preferable to the richest dung, because it does not produce such a quantity of weeds." I do not know whether its effect will be so permanent or not, but for a single crop, I hazard nothing in saying that in sufficient quantity it is equal to the best stable manure.

The wonderful effects of this manure are not to be attributed so much to the vegetable matter which it contains, as to the quantity of salts and animal mucilage intermixed with it. It is doubtless this animal matter (consisting of sea nettles, young shell-fish, and the spawn and *fœces* of the finny tribe,) that produces so striking an effect on wheat on light lands. According to the writer in the Encyclopædia to whom I have referred, it has produced a wonderful effect on the sea coast of England, imparting to light lands sufficient tenacity to produce wheat and to resist *mildew*. I do not know what this manure would yield on analysis; but I think it probable a quantity of *gluten* would be afforded, which is essential to the growth of wheat; and this may account for the remarkable fact observed both here and in England, that it imparts to the lightest soils the capacity to bear heavy crops of wheat. You may find in the first volume of the *American Farmer*, an interesting letter from Thomas Griffin, Esq. of Yorktown; and in the thirteenth volume of the same work, a valuable communication from an Eastern Shore farmer, signed "Cornplanter," on the great virtues of this manure:† the republication of

\* By Robert Brown of Marble, (Scotland,) who was a judicious and successful practical farmer on a large scale, as well as an excellent writer on agriculture in general—two characters which unfortunately, are seldom found combined in the same person.—*Ed. Far. Reg.*

† "Cornplanter" was republished, p. 314, *Farm. Reg.*



these might possibly be of service by rousing the attention of some of our lethargic farmers, to the inestimable value of an article heretofore regarded by them as a nuisance, being suffered to remain fermenting and putrefying on the shores, and infecting the atmosphere with the most fetid and pestilential odours.

Most of the farms on the Potomac abound with banks of partially decomposed oyster shells, whether left there by the Indians, or brought to the surface by some great convulsion of nature, from the former bed of the river, I leave to geologists to determine. I have used these shells in considerable quantity, and with very manifest advantage. They do not act so promptly or so powerfully as the *sea weed*, but are probably more permanent in their effects. In combination with *sea weed* and other putrescent manures, they have all the effects of marl in giving permanency to the improvement. The late Mr. Ellyson Currie of Lancaster, who was the most zealous farmer of my acquaintance, used these shells very extensively; and whenever I met with him, he expatiated with delight and enthusiasm on the great benefit derived from them. He used them, however, without a sufficient attention to artificial grasses, and probably without the application of a due portion of putrescent manures; and the consequence has been, as I have been informed since his death, that parts of his farm, now exhibit the appearances invariably produced by an over-dose of calcareous matter, without a due application of putrescent and vegetable manures.

The value of oyster shell lime, as a manure, is so generally understood, and has lately been so well attested by the successful practices of Mr. Lewis of Wyanoke, and other contributors to your Register, that I deem it unnecessary to say much on that subject. I have applied it to some extent, and with obvious advantage to wheat and clover: but having a great abundance of other materials much more accessible, I have not yet devoted much attention to lime. I am now, however, about to burn a quantity of shells, with a view of making a compost of old corn cobs, marsh mud, stable manure and lime, hoping in this way to derive some advantage from the corn cobs, which heretofore I have found it almost impossible to reduce to the food of plants. Under ordinary circumstances, I do not approve of expensive composts; but having all the necessary materials at hand, I shall form my compost during wet weather, when the fields will not bear carting over them, and when my manuring force could not be profitably employed about any thing else. In this way it will cost but little.

I have made some experiments with *marsh mud*, which at first promised to be very successful, but I must confess that my expectations have been somewhat disappointed. To apply it, requires more labour, and that of a very disagreeable kind, than either bank shells or sea weed; and in my hands it has proved less efficacious than either of them. It is possible that I have committed some error in applying it, as I have been assured by a gentleman of high respectability, from the Eastern Shore of Virginia, who had used it extensively, that he would not exchange it, load for load, for the best stable manure. I entertain no doubt that when better materials are not to be had, it may be used with great advantage.

The beds of fossil shells, in this country, denominated *marl*, may possibly be considered as belonging to the class of *marine manures*: as in all probability they are of marine origin. But the period of

their connexion with the sea is so remote, and the means by which they were transferred to their present positions, so indistinctly "known to our philosophy," that I have not thought proper to class them under this category. It is not, however, foreign to the purpose of this essay to say a few words on this interesting subject.

Your *Essay on Calcareous Manures*, and the articles in the Register on that subject, have excited great interest in the Northern Neck, as well as in other parts of the State. The subject is discussed in almost every company, and some of our practical farmers are already applying marl, and many others are in search of it. It is a very fortunate, and seemingly providential circumstance, that as soon as we leave the flat lands of the rivers and creeks, and come into the forest where *marine manures* are not to be had, marl is found in abundance. I have now in my possession several specimens, some of them uncommonly rich, found since the publication of your book, in different parts of the Northern Neck. You have just cause to be proud of having conferred so great and lasting a benefit on your country.

I cannot close this long, and I fear tedious communication, without expressing the confident opinion, that the cultivation of artificial grasses, particularly clover, is absolutely necessary to secure the full benefit of any system of manuring. I fully concur with your correspondent, Mr. Archer, of Fort Monroe, that in Eastern Virginia we have committed a great error, in supposing that our lands will not produce artificial grasses to advantage. My limited experience and observation entirely confirm the view so well expressed by him. It may be safely affirmed that there is not on the face of the globe, (possibly with the exception of China,) a highly improved and well cultivated country, in which artificial grasses are neglected. If China be an exception, the peculiar condition of that country, will afford the best reasons for the practices there adopted, whilst it should teach us the impossibility of following the example.

Whilst on the subject of grasses, I will inquire if the question, whether plaster will act in the vicinity of salt water, has yet been satisfactorily settled by the experience of practical farmers? I design to make some experiments with it in the spring, and may possibly send you the result of my observations.\*

I hope Sir, that you will receive this communication as an earnest of the zeal with which I desire to co-operate in the noble cause of agricultural improvent. I should be happy if I could bring to your service, any thing calculated to give effect to your labours. But I am well convinced, that neither my skill nor success as an agriculturist, give me the slightest claims to the confidence of the public as a teacher of the science.

WILLOUGHBY NEWTON.

Westmoreland Co. (Va.) Dec. 16, 1833.

\* We have no experimental knowledge of gypsum acting near salt water, but have fully proved its efficacy on soils after marling, on which before, that manure was totally worthless; and its inertness even near fresh tidewater, has been generally attributed to the sea air. If our correspondent will try gypsum on clover where he has already applied his oyster bank manure in abundance; or if he can cause the like experiment to be made on some of the land injured by Mr. Currie's excessively heavy dressing, we entertain but little doubt of his success.—*Ed. Far. Reg.*

*Tarring Seed Corn.*

[FROM THE FARMERS' REGISTER.]

As the season for planting corn is approaching, permit me to recommend an article in the 14th vol. 59th page of the *American Farmer*, to the perusal of your readers, upon the subject of preparing or tarring seed corn, as a means of protection against crows, hens, black birds, and all others of the feathered tribe. In case the work should not be at hand, I will give the substance of the article, which will be sufficient for any one who is disposed to try it. The process is as follows: "Take a peck of corn and pour on it hot water, (without detriment); after standing a few minutes, draw off the water. The tar having having been warmed sufficiently to reduce it to a fluid state, is then applied to the corn in small quantities, stirring at the same time, until all the corn is thoroughly daubed with tar. Then apply plaster, ashes or lime, one of these substances, intermixed with the corn will prevent cohesion and give better thrift to the crop. A peck of corn is as large a quantity as will be found convenient to operate upon at a time. A quart of tar is sufficient for a bushel of seed. The tar, however, should not be applied sparingly. No injury, to my knowledge, has ever been done to seed, by any part of this process. I have practised preparing my seed corn in this manner for more than thirty years, and can recommend it as an effectual security against all manner of fowls that have been known to disturb corn fields." It would seem, perhaps, that the author of the above, was rather sanguine in his assertions; but if any statement of mine, as an anonymous writer, will have any bearing, or corroborate those assertions, I can bear testimony to most of the facts therein stated. The tarring process has been practised upon my farm for several years, and as far as it has come under my observation, I believe it to be an effectual security against the depredations of the whole feathered family. But there is another advantage from tarring corn, which is, that plaster adheres more readily, and in a much larger quantity, which is a matter of much importance in this section of country.

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*Account of the Merino Sheep, and the Mesta of Spain.*

[FROM THE LONDON PENNY MAGAZINE.]

MERINO is the name of a Spanish breed or variety of sheep, which affords a wool esteemed to be finer than that which any other European breed produces. In this breed the males have horns, but the females are without them. They have generally white faces and legs. The body does not seem very perfect in shape; the legs are long, the bones small; and under the throat the skin is somewhat pendulous and loose. The skin of the animal is fine and clear. When they are somewhat fat, the weight, per quarter, of the ram is about seventeen pounds, and of the ewe about eleven pounds.

The sheep of Spain are divided into two principal sorts: the common sheep, which continue on the grounds of their owners, and are housed in winter; and the Merinos, which always remain in the open air, traveling before the summer to the cool mountains, and returning before the winter to the warm plains. The stationary sheep chiefly

belong to the eastern provinces of Spain: while the Merinos belong to the central and western parts—the Castiles, Leon, and Estremadura. In summer they resort chiefly to the plains of the latter provinces, and in winter to the mountainous parts of Castile, which form the most elevated parts of Spain, and abound in aromatic plants and fine pastures. Different accounts are given of the origin of this practice; but we have no distinct knowledge of the existence of traveling flocks in Spain until the time when the Christians began to prevail against the Mahomedans in the thirteenth century, and came down from the mountains of the north into the provinces of the centre and the south. After that time, however, the system of migration became well and firmly established; and before the Moorish kingdom of Granada had been finally reduced in the fifteenth century, the system had been organized, under the authority of the government, in nearly its present form. This we shall now proceed to describe, taking Laborde, a statistical writer on Spain, as our principal guide in the description.

There is an institution peculiar to Spain called the *mesta*. It is a society of noblemen and other proprietors, to whom the migratory sheep belong, who are empowered to make regulations concerning the migrations of the flocks, and who, in fact, are a great co-operative body of capitalists. Unfortunately they possess powers and privileges much at variance with the interests of the people. The term *mesta* is also applied to the great body of the migratory sheep in general; while the particular flocks are called *Merinos* and *transhumantes*.

These flocks, when assembled for migration, generally consist of about ten thousand sheep. Every flock is conducted by an officer called *mayoral*, whose business it is to superintend the shepherds and direct the route; he is generally an active man, well acquainted with the kinds of pasturage, the nature of sheep, and the method of treatment. Under him there are commonly about fifty shepherds, each of whom is allowed to keep a few sheep or goats of his own in the flock, on the understanding, that they and any young they may produce are his property, the wool and the hair belong to the proprietor of the flock. The number of persons thus employed in the care of the whole of the flocks that compose the *mesta* are about forty-five or fifty thousand. The dogs are also very numerous, fifty being the number commonly allowed to each flock.

It is at the latter end of April, or the beginning of May, that the flocks leave the plains for the mountains. When they have been driven to the place where they are to remain, the shepherds give them as much salt as they are willing to lick; and the quantity of this article allowed for their consumption during the five summer months is one ton for every thousand sheep. At the end of July the rams are permitted to associate with the ewes, but before and after that time they are kept separate. In September the backs and loins of the sheep are rubbed with red ochre dissolved in water; and towards the end of the same month they recommence their march to the plains of Leon, Estremadura, and Andalusia. The sheep are generally conducted to the same ground which they had grazed the preceding year, and where most of the lambs were born. Here folds are constructed for the sheep, and huts of branches for the shepherds; and there they remain during the winter. The birth of the lambs takes place shortly after the arrival of the flocks in winter quarters; and particular attention is paid to prepare them by good diet for the journey in April. In



March the shepherds have much to do with the lambs: they cut the tails, mark the nose with a hot iron, and saw off the points of the horns. When the time approaches for the flocks to depart for the mountains, they indicate their desire to migrate by their restlessness, and by their endeavours to escape. The shearing takes place in the month of May, during the summer journey. This business is introduced with much of preparation and ceremony, and the intervals of labour are cheered by a great deal of jollity and merry-making. The shearing is performed under cover. The animals are previously put into a building consisting of two apartments, from four to eight hundred paces long and one hundred wide. As many of the sheep as are to be sheared the following day are taken in the evening into a narrow, long, low hut, called the *sweating-house*, where, being much crowded together, they perspire freely, which renders the wool softer and more easy to be cut. This is one of the practices the Spaniards appear to have derived from the Romans. One hundred and twenty-five men are usually employed for shearing a thousand ewes, and two hundred for a thousand weathers. Each sheep affords four kinds of wool, more or less fine according to the parts of the animal whence it is taken. The rams yield more wool than the ewes, but not of so fine a quality; three rams or five ewes afford twenty-five pounds. The wool is sorted and washed before being sent away. The sheep that have been sheared are carried to another place and marked; and those which, in the course of the individual inspection they undergo on this occasion, are found to have lost their teeth, are set apart to be killed for mutton.

The journey which the flocks make in their migration is regulated by particular laws and immemorial customs. The sheep pass unmolested over the pastures belonging to the villages and the commons which lie in their road, and have a right to feed on them. They are not, however, allowed to pass over cultivated lands, but the proprietors of such lands are obliged to leave for them a path of about eighty-four yards in breadth. When they traverse the commonable pastures, they seldom travel more than six miles a day; but when they walk in close order through the cultivated fields, they often proceed upwards of eighteen miles, and they have sometimes been known to go twenty-five or thirty miles in one day, in order to reach a convenient place for halting. The whole of their journey is usually an extent of from 360 to 420 miles, which they perform in thirty or thirty-five days. Popular opinion in Spain attributes the superiority of the wool in the Merino to these periodical migrations; but this appears to be disproved by the fact that the wool of the stationary sheep is sometimes equally good, and still more by the very great superiority of the wool of the German Merino, which does not migrate at all. The number of the migratory sheep in Spain is at present estimated at 10,000,000, and of the stationary at 8,000,000.

The existence of the system which we have been describing is considered to constitute a great bar to agricultural improvement in Spain. The *mesta*, of which we have already spoken, has a code of peculiar laws, administered by four judges, whose jurisdiction extends to all matters that are in any degree connected with the *mesta*, and who take particular care that none of its privileges shall be infringed. Among the evils which the system produces, it is complained that the forty or fifty thousand persons employed in attending the sheep are lost to the state, as to the purposes of agriculture and population, as

they scarcely ever marry; that a vast quantity of good land is converted into pasturage, and produces comparatively nothing; that great damage is committed with impunity to the cultivated lands during the journeys of the flocks—and this is so much the more injurious as, at the time of the first journey, the corn is considerably advanced in its growth, and at the second, the vines are loaded with grapes; that the commonable pastures are also so completely devastated by the migratory flocks, that the sheep of the resident population can hardly pick up a subsistence; and that the flocks of the mesta are of no use in an agricultural point of view, for as they are never folded upon arable land, they contribute nothing to its fertilization. Besides this, the directors and shepherds are dreaded in every place to which they come, for they exercise a most intolerable despotism—the consequence of the improper privilege which they possess of bringing whoever they may choose to insult before the tribunal of the mesta, whose decisions are almost invariably in favour of its servants. The existence of the mesta has, therefore, long been a subject of public complaint and remonstrance, and even the general states of the realm have been continually requesting the suppression of it. For a long series of years these appeals were made in vain, but about the middle of the last century the government felt itself obliged to pay some attention to the subject. A committee of inquiry was therefore appointed to take the matter into consideration, but the influence of the mesta prevailed in the committee and elsewhere; so that though the commission is still, we believe, understood to exist, it has not *yet* given its opinion on the subject of the mesta, or proposed any remedy for the evils it produces.

“The Merino, or Spanish breed of sheep, was introduced into this country [England] about the close of last century. George III. was a great patron of this breed, which which was, for several years, a very great favourite. But it has been ascertained that, though the fleece does not much degenerate here, the carcass, which is naturally ill-formed, and affords comparatively little weight of meat, does not improve; and as the farmer, in the kind of sheep which he keeps, must look not only to the produce of the wool, but also to the butcher-market, he has found it his interest to return to the native breeds of his own country and abandon the Spanish sheep. They have, however, been of considerable service to the flocks of England, having been judiciously crossed with the South Down, Ryeland, &c.” The Merino was introduced into most of the other countries of Europe, in the course of the last century, with very various success. It has also at later periods been carried out to New South Wales, Van Diemen’s Land, the Cape of Good Hope, and the United States; and it seems now to have been sufficiently established that, wherever the animal has been attended to for the sake of the wool, it will afford good wool, but that the quality of the wool deteriorates when that of the mutton becomes an object.

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### *Corn Crusher and Grinder.*

[FROM THE FARMER AND GARDENER.]

THERE is, perhaps, no part of the economy of a farm so badly managed as that of feeding stock; for if we are to judge, in most instances, by the manner in which this duty is performed, we would be

led to conclude that to get it done, without any regard to economising the provender, was the great desideratum. In a majority of cases the horses get their allowance of corn in the ears, the cows in the nubbing, and the corn fed to the fattening hogs is also in the ears; by which process, the *cob*, a most nutritious and valuable part, is mainly lost; for although so far as the horses and hogs are concerned, the cob, after a series of years, is converted into manure, yet as an article of food its valuable properties are entirely lost, and lost too, without rendering any *immediate* service to the farm in the form of manure, inasmuch as from the very nature of its constituent parts, much time must elapse before it can possibly decompose and become food for plants. In husbandry, as in every other avocation of life, it should be the great object of all to effect the most good with the least means. In this, true economy consists. The questions which the farmer should ask himself are,—can the cob be converted into food? Is it sufficiently nourishing to justify the expense necessary to reduce it to meal? If he finds these questions can be affirmatively answered, he should no longer hesitate as to the propriety of feeding it in that form. These questions then have been long since so answered. Experiments have been tried, and the cobs crushed into meal have been found to be two-thirds as nutritious as the meal made from the grain. This being the case, any contrivance by which they can be made available to the farmer as food for his stock, must prove a consummation most devoutly to be wished.

We are led into these remarks, on reading the subjoined certificate, which we copy from the *Jonesborough* (Tenn.) *Republican*. We of course knew nothing about it, more than what we find in the voucher; but if it realizes what is said of it, we think we may say it will prove almost as great a blessing to the South as has the Cotton Gin.

*Jourdon's Corn Crusher and Grinder.*—We, the subscribers, do certify, that we have seen in operation, and have carefully examined a machine invented by Mr. A. P. Jourdon, of Madisonville, Monroe County, East Tennessee, for crushing and grinding ears, and we have no hesitation in recommending it to the public as a valuable acquisition to the agricultural community. It breaks the ear in pieces and grinds both cob and grain into a meal, well calculated for cattle and horses, and must be attended with a great saving of grain to all who use it. It is simple in its construction, cheap, costing only \$15, and may be worked by hand, by horse, or by water power. One of the machines may at any time be seen at the farm of Mr. John Hoss, of Washington County. Given under our hands, this 20th day of January, 1836.

PETER MILLER,  
JOHN HOSS,  
ELIJAH FINE,  
DANIEL KENNY,

JAMES BEARD,  
THOMAS H. CROUCH,  
SAMUEL HUNT,  
J. BOYDE.

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*The Agricultural Convention of Virginia.*

[FROM THE FARMER AND GARDENER.]

WE gave in our last a brief account of the meeting and doings of this body; but it was not sufficiently explicit to enable us to comprehend its views—the following abstract, which we copy from the Richmond Enquirer, will, however, shew the nature of the propositions which the convention have submitted to the consideration of the legislature, and upon which they ask its sanction. We could wish to see similar institutions engrafted upon the policy of every State in the Union; and we must confess we know of nothing presenting more legitimate claims to the fostering care and patronage of the lawgivers of our several republics.

The expense should not deter a single member of any legislative body from voting for it; for we can promise them that if they will devote forty acres of each pattern farm to the mulberry culture, each of the several States will find itself in the annual receipt of a very handsome revenue from the surplus products of the respective establishments. These are the suggestions alluded to:

*First.*—The establishment of a professorship of Agriculture at the University of Virginia, connected with a small experimental Farm, to be cultivated by the pupils—a portion of whom, equal to one for each Senatorial District, to be selected by the entire Delegation of the same in both branches of the Legislature, from among such moral and intelligent youths within their respective Districts as are unable to educate themselves.

*Second.*—The appointment of a Board of Agriculture, consisting of one practical Agriculturist from each Congressional District, whose duty it shall be to meet annually in Richmond, on the same day with the Legislature. They shall receive the same per diem pay, shall sit but one or two weeks, and must report before adjournment, to the the Legislature, on all such matters as they may deem worthy of legislative action.

*A third plan* is, to employ a competent officer, with a salary sufficient to defray necessary expenses, for two years, to make an agricultural survey or minute examination of all the best cultivated parts of the United States, and report to the Legislature in regard to them, every improvement in all the different branches of husbandry, which have been introduced into the States so examined, as well as a minute description of all the most approved agricultural machines and implements, so as to guard the public against the numerous and continual impositions practised upon them in this respect."

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*The Potato.*

[By the Conductor of the Albany, (N. Y.) Cultivator.]

THERE is nothing peculiar in raising the potato from seed, more than any other plant. The quality of the offspring will, like that of all animals and vegetables, partake of the character of its parents. Of course the seed should be selected from the best varieties, as we shall be then sure of breeding from one good stock. It may be separated from the pulp of the ball and dried, or the balls may be broken and dried, to



be sown in the spring. They should be kept from frost and moisture. At the usual planting time prepare a bed of good mould, and sow the seeds thinly on it in drills 18 inches apart. Nurse the plants as you would a bed of onions; and in autumn take up and preserve the small tubers of each plant separate. Plant the second year at the distance of 18 inches or two feet each way, nurse as before, and you will be able to judge from the product, and their time of ripening, of their character and quality. Plant your selected kinds a third year and the crop will be fit for market or stock. The superiority which our correspondent discovers in "old country" potatoes is not wholly owing to new varieties, but to climate. In our country, we think, the potato deteriorates south of latitude 41, and perhaps the best potato zone may be comprised between latitudes 41 and 46 degs. north. The latitude of Britain is still farther north, though its climate is more temperate than ours. In our latitude, in ordinary seasons, the best potatoes are grown on grounds that are deemed cold, as reclaimed swamps, &c. The best potatoes are grown in Ireland, Lancashire, (Eng.) in Nova Scotia, Maine, &c. where the temperature is comparatively cool, and at the same time very humid. The duration of a variety, in perfection, is generally computed at from 14 to 20 years, though this period is sometimes prolonged by a change of soil or climate. The nutritious properties of the potato have been proved to vary from 14 to 28 per cent. in different species. Those abounding most in nutriment are invariably the best, not only for the table, but for farm stock; but they seldom, if ever, exceed a medium size, and are less productive than coarse kinds. Hence, as buyers make little or no distinction, the grower finds it most profitable to raise the latter.

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### *Experiments with Lime as Manure.*

[FROM THE FARMERS' REGISTER.]

IN my first acquaintance with the use of lime, I was almost driven from a further trial of it, by its contrary effects; but I candidly admit that my expectations were founded upon gross ignorance of the proper manner of using it, for I ought not, upon neither rational nor scientific principles, to have expected a different effect after the manner of use.

I will give you a history of my mode of application and its effects, if you can have patience enough to follow me, for I really expect you to be tired reading such crude unpolished stuff as I am truly ashamed of myself: but the experiment is correct. If my pen has a poor faculty of relating it, your repeated assurances that doctrines when founded upon correct observation, was the greater object of your solicitude even if clad in homespun language, have spurred me onward to give you this desultory statement. In the spring of 1834, a very poor lot of land containing 15 acres rather on the sandy order, what is termed by your Essay a sandy loam, was divided into two equal lots of 7½ acres each, both to be seeded in red clover to experiment from, with lime and plaster separately. As my knowledge of the effect of either, was rather vague and visionary, I determined to improve it if I had to pay rather dear for my whistle. Consequently, 500 bushels of well burned shells was set apart for the lot for listing, and from 20 to 25 bushels of ground plaster was set aside for the lot

for plastering. After the lot for lime received its first fallowing, it was checked off carefully at different distances, so as to vary the quantity when spread from 40 to 120 bushels per acre, a bushel of shells was put down in each check, and carefully covered over with earth until they had perfectly slaked, and then spread as regularly over the surface as possible. The other lot received a light broadcast of rich dunghill earth, and seeded both lots about the middle of February in red clover, prepared as neatly as a harrow and roller could do it. In March following, the lot destined for plaster, received its first due  $1\frac{1}{2}$  bushels to the acre sowed on a damp day, and the next plastering after the first cutting of clover was taken from it: the two lots were left to time and seasons to unfold their wonders. The limed lot with a good grass season did manage to admonish the passer by that red clover had been sown there. The other yielded in the month of July, a fine cutting of hay. So much for my first attempt. The difference was so very striking, that it awakened in me an anxious inquiry. I commenced to read—for until then I looked upon a book on agriculture, like the layman did the bible in the darkest days of popery, to be touched at the risk of ruin. I had embraced the ruinous idea so common, and yet so fatal to my countrymen, that book knowledge was prejudicial to profitable husbandry: but I soon detected my error, and determined to carry my experiment with lime still further. So, last October, I carted on the lot 500 loads of good farm pen litter, and spread it broadcast, then seeded it again with wheat and red clover at the rate of  $1\frac{1}{2}$  bushels of wheat and five quarts of red clover seed to the acre. Now comes the bright side of the picture. The wheat (on land before almost too poor to produce any thing) stood on average from five to six feet high (though a very bad season for wheat;) and I verily believe, could it have been prevented from falling down, the yield would have been from 175 to 200 bushels. I know not the exact quantity I have saved, not having yet threshed all out, but it will not fall much short of 175 bushels, and the waste was considerable. The clover bids fair to exceed the other lot, though the yield from the plastered lot was not inconsiderable, as the first cutting this season averaged from three to four feet in height, and is now fit for the scythe again. So much for the lime and plaster. Many of my neighbours when passing these lots look puzzled. The cloud of ignorance which has so long obscured Eastern Virginia, is gradually disappearing before the effulgent rays of your agricultural pioneer the Farmers' Register, for such I hail it in this section of the country.

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### Cultivation of Mushrooms.

[FROM THE FARMERS' REGISTER.]

WHOEVER has been accustomed to eat mushrooms, will certainly allow them to be one of the greatest dainties the earth affords, especially the *morel*, *truffle*, and *champignon*. The *morels* chiefly appear in April, and the *truffle* about the same time may be dug out of the ground; for they never appear above the earth. Those who make it their business, in foreign countries, to gather the truffles, have only one way to find out where they grow, and that is by the help of a hog, which they lead in a string through the woods, suffering him to root the earth as he goes along; for swine being very voracious of

them, discover them by their smell, and turn them out of the ground. These kinds have never, I believe, been cultivated, although they are sometimes found upon our plains and commons. The champignons may be raised in gardens in the following manner. Dig a trench six inches deep, lay in it the dung of horses, mules, or asses, then cover the dung about an inch thick with fresh earth, such as is just taken from under the turf, rather sandy than otherwise, and then cover the whole bed with straw or dry litter, as well to defend it from frost in winter, as from the scorching heat of the summer's sun. The bed being thus prepared, water it twice or three times a week, without taking off the covering of straw, and in about a month's time the mushrooms will begin to appear. These beds must be made every month to produce mushrooms all the year. The late famous Mr. Harrison, of Henly, made mushroom beds much after the same manner, only instead of horse dung, he made use of old thatch, which turned musty and grew mouldy much sooner than horse dung, and would produce mushrooms quicker, and in greater plenty. Half rotted straw moistened with lime water, will also produce mushrooms in great abundance. The cuttings of white poplar, steeped in hot water well fermented with yeast, will produce very good mushrooms in a few days; and the loose chips of the same tree, being buried in a decayed hot bed, will do the like.

*To make Mushroom Catsup.*—Break them into an earthen pan, strew salt over, and stir them now and then for three days. Then let them stand for twelve days, till there is a thick scum over them; strain and boil with Jamaica and black peppers, mace, ginger, a clove or two, and some mustard seed. When cold bottle it, and tie a bladder over the cork;—in three months boil again with new spice, and it will keep two years.

*To dry and powder Mushrooms.*—Lay them on tins or sieves in a slow oven till they are dry enough to beat to powder: then put the powder in small bottles, corked, and tied closely, and kept in a dry place. A tea spoonful will give a very fine flavour to soup or gravy, or any sauce. It is to be added before serving, and one boil given after it is put in.

*To stew Mushrooms.*—Stew with salt and pepper—simmer slowly till done; then put a small bit of butter and flour, and a little cream: give them one boil and serve with sippets of bread. S.

### Botts in Horses.

[FROM THE AMERICAN FARMER.]

*J. H. Skinner, Esq.*—Sir,—Having seen in the Farmer various receipts for the cure of the botts in horses—none of which had given general satisfaction, if we may judge from the inquiries which are still made for remedies—I send you one, on which I have practised for more than half a century, with invariable success. I received it from a German veterinarian, who came to this country with the Baron Steuben, and was attached, as farrier, to the general staff of the main army, in the years 1778–9. He may be remembered by some of the military gentlemen of that day, under the dignified appellation of Count Saxe, *nom de guerre*, given him by the Baron, on his entering our service. He was a man of great skill and celebrity in his

profession. The ingredients are simple, and too mild to produce any injurious effects on the animal to whom they may be administered. They consist of new milk, honey or molasses, common salt and water, and linseed oil. The manner of preparing and administering is as follows—as soon as the disease (the symptoms of which are unerring,) is ascertained, drench the patient, fasting, if possible, with a quart of fresh milk, saturated with honey, molasses or sugar—to be prepared in the order stated. Leave him at rest for two hours—at the expiration of which, having previously prepared some strong brine, by boiling as much common salt in water as can be dissolved in it, drench him as before, with a pint of it, when cool. By a similar period of two hours, give him a half pint of linseed oil, and the remedy is complete.

The rationale established, as I conceive, by a process I shall state, is as follows:—It is well ascertained that botts destroy the life of a horse, by feeding on the integuments of the stomach, and finally perforating it. Preferring, however, as weetened milk, to flesh diet, they detach themselves from the intestines, and glut the savory beverage. When satiated, their volume becomes enlarged, the skin extended and thin—in which state, the strong brine by dissolving, destroys them. The operation of the oil is to sheath the wounds they have inflicted, to aid the cathartic effects of the salt, and to carry off remaining impurities.

The process of experiment on which the foregoing theory is founded, shall now be stated. Some years since, when travelling, I stopped at the house of an intelligent and respectable innholder, in the village of Poughkeepsie, County of Dutchess, who had that morning lost a horse by botts. The remedy he had used, by the advice of a physician, was spirit of turpentine, which failed of success. To satisfy himself whether it would be effective under any circumstances, he had taken from the animal some worms after his death, and immersed them in a cup of the spirit, for about the space of an hour. He then presented to them a piece of crude flesh, to which they immediately attached themselves, and adhered so firmly as to be drawn from the vessel without losing their hold, and appeared to have suffered no inconvenience from their immersion. I gave him my receipt, and he determined to try its effects immediately upon a fresh parcel of worms. I could not wait to see the result; but was afterwards minutely informed by him of his process and its effects. He selected four of the largest worms he could find, together with a portion of the stomach to which they were attached, and immersed the whole in the prepared milk. They immediately quitted their hold of the fragment of the stomach, and gorged the liquid. In this situation they remained two hours, without touching the flesh they had quitted. When extracted, their size was more than doubled, and their skins so thin from extension, as to render them semi-transparent. They were now placed in the brine, prepared as directed, and at the expiration of two hours, they were not only lifeless, but nothing remained of them but their heads and skins.

The following fact, will further serve to show the complete efficacy of this remedy. At the first stage of a journey, in the month of June, having travelled moderately about twelve miles, my horse refused his feed; to which I paid little attention, supposing he had been well fed before I set out; at the next stage of about the same distance, he exhibited the most violent symptoms of a severe attack of the botts,



Such as great restlessness, rolling on the earth and gnawing it—striking his feet against his abdomen, and biting his sides. I immediately administered my remedy: excepting the oil, which could not be procured. I shortly after turned him to pasture, where he soon began to eat, and the next morning was well enough to pursue his journey, without any signs of uneasiness, except when his sides were touched which lasted but a few hours.

Horses may, by attention, be preserved at all times from a virulent attack by botts. A table spoonful of hickory ashes, with a handful of salt, mixed with their meal twice a week will afford perfect security. Whether its operation is prophylatic or remedial is of less consequence than to be ascertained of the fact, for which I do not hesitate to vouch. Should it, however, be the latter, and that the ashes and salt destroy *exuvæ* in their incipient state, it may be well to be acquainted with what physicians term the pathognomonic diagnostic, or the symptoms indicating the particular disease, and no other. In this stage of it, the animal affected, every four or five minutes gradually raises his tail above the horizontal line of his back, and then lowers it with a switching or jerking motion; making three or four stops or stages in its passage downwards. The ashes and salt may then be given; but should the symptoms continue, the other remedy should be instantly resorted to, for the growth of the worm is very rapid.

The manner in which botts are produced, has been a subject of almost as much discussion, as the best mode of getting rid of them. A communication on this question made some years since, by a Mr. Billings, to the Agricultural Society of Dutchess, puts it at rest. He states that he took some of the nits, attached to the hairs of a horse's legs, by what is usually called the bot bee; hatched them by the warmth of his hand; placed the vermiculi under glass, and fed them with animal food: in which situation they grew rapidly, went through the various transformations incident to the insect tribe, and terminated in the perfect bott bee, or fly.

MORGAN LEWIS.

### *Magothy Bay Bean—Eastern Shore of Virginia.*

Extract from Notes of a hasty view of the Soil and Agriculture of Northampton, (Va.)—From the Farmers' Register.

THERE is an additional feature of the tillage here, which in many cases has had much influence in aiding the benefits, or lessening the scourging tendency of the rotation. This is the growth of a plant which has great value as an improver of fertility, and which is peculiarly adapted to sandy soil, and to the succession of crops here in use. The Magothy Bay Bean is a plant of the pea tribe, and the whole of that tribe seems to possess greater power than any other for acting as manure. Clovers are of the pea kind, and red clover stands at the head of the class of green manures. But though a good cover of Magothy Bay bean is probably of far less value as manure than a good cover of clover, yet the former growth in general is more valuable, because requiring no regular sowing, but very slight care for its perpetual preservation, and producing crops far more luxuriant than could possibly be obtained of clover, and perhaps of the most worthless weeds on the like sandy soils. The seeds are very hard, and slow to vegetate, and will remain sometimes for years in the soil

before sprouting. This quality prevents the tillage of corn, however perfect, serving to root out, or materially thin the after growth. The spring ploughing for oats retards the springing of the plants, until the oats are enough ahead not to be injured by the undergrowth of beans. At this time (July 10th,) the reaping of the oats is generally going on, or has been just finished where most forward. The undergrowth of Magothy Bay bean is from three to eight inches high, according to the condition of the land, (rarely more than six inches) and is not a material impediment to reaping and saving the oats. It is even now a beautiful growth—but its present appearance is nothing in comparison to what will be exhibited in August, and from that time to frost, according to the descriptions given of the well covered fields, and which I can well believe from the more sparse growth which I have seen matured at home. The flowers are very abundant, and of a deep and beautiful yellow—and continue to open for many weeks. The whole plant was well described by Bordley, as a "Lilliputian locust tree," with which it agrees in the general form of the flowers and leaves. The beans rise rapidly as soon as the shelter of oats is removed, and acquire a height usually varying between one and two and a half feet, according to the land. Even where no care whatever is taken to preserve the succession of plants, and indeed, where the tillage and grazing (under the common rotation) is such as would effectually destroy any other kind of any value, this continues to be the most general cover of the land after the crop—though, of course, a scattered and thin cover compared to what is found under more favourable circumstances. Cattle feed on this plant, and, indeed, find not much else in the fields, after the scattered oats have been picked up. Hogs strip off the green pods, and to the extent of their operations, destroy the seeds. When matured, the seeds are so hard that they would probably pass through the body of an animal uninjured. The plant is an annual. The leaves fall before winter, and the stalk seems so hard, that many persons would on that account deem them of but little value as manure.

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### *Properties of the Elder Tree.*

[FROM LEIGH HUNT'S LONDON JOURNAL.]

Sir J. E. Smith has remarked that this tree is, as it were, a whole magazine of physic to rustic practitioners. It is said that if sheep that have the rot can get at the bark and young shoots of elder they will soon cure themselves. The wine made from elder berries is too well known by families in the country to need any encomiums; it is the only wine a cottager can procure, and when well made, is a most excellent and wholesome drink, taken warm before going to bed. It causes gentle perspiration, and is a mild opiate. If a rich syrup be made from ripe elder berries, and a few bitter almonds, when added to brandy, it has all the flavour of the best cherry brandy. The white elder berries, when ripe, make wine much resembling grape wine. The buds and the young tender shoots are greatly admired as pickle. The leaves of the elder tree are often put in the subterranean paths of moles, to drive those noxious little animals from the garden. If fruit trees, flowering shrubs, corn or other vegetables, be whipped with the green leaves of the elder branches, it is said insects will not attach themselves to them. An infusion of these leaves in water is good to sprinkle over rose-buds, and other flowers subject to blight, and the devastations of caterpillars.

## PART III.

### MISCELLANEOUS INTELLIGENCE.

*Editor of the Southern Agriculturist*—Dear Sir,—As the following Receipt might be serviceable to some of your readers, permit me to offer it to you.—

Respectfully,

W. L.

Charleston, Jan. 27, 1836.

*To take off the Natural or lively shape of an Herb.*—First, take the leaf you would copy, and gently rub the veins on the back part of it with a piece of ivory or other polished substance, so as to bruise them a little; afterwards wet the same side gently with linseed oil, and then press it hard upon a piece of white paper. And you will have the perfect figure of the Leaf, with every vein justly expressed. This impression being afterwards coloured, will seem truly natural, and is a most useful method for such as would wish to preserve plants.

*Charleston Market 57 years ago*—From Well's Gazette, October 7, 1774, Mr. Joseph Bell, Clerk of the Market, has furnished us with the following account of butcher's meat sold in the lower market for the last *twelve months*:—Beeves 547; Calves, 2907; Sheep, 1994; Lambs, 1501; Large Hogs, 791; Small Hogs and Shoats, 4053.

*Charleston Market, January 7, 1836.*—Miles Dempsey, Clerk, Reports the following Stocks brought to the Centre Market, for the *Quarter* ending the 31st December, 1835, viz. Beeves, 3081; Calves, 583; Hogs, 2718; Sheep, 1275; Lambs, 115; Goats, 18; Wagons with Poultry, Bacon, &c. 260, and Venison, Game, &c.

*Who'll turn the Grindstone.*—When I was a little boy, I remember one cold winter day, I was accosted by a smiling man with an axe on his shoulder—"My pretty boy," said he, "has your father a grindstone?" "Yes Sir," said I.

"You are a nice little fellow," said he, "will you let me grind my axe on it?"

Pleased with his compliment of "fine little fellow"—"O yes, Sir," I answered, "it's done in the shop."

"And will you, my little man," said he, tapping me on the head, "getting a little hot water?" How could I refuse? I ran and soon brought a kettle full.

"I am sure you are one of the finest lads that ever I saw."

Tickled with this flattery, like a little fool I went to work, and bitterly did I rue the day. It was a new axe, and I toiled and tugged till I was almost tired to death. The school bell rang, and I could not get away; my hands were blistered, and it was not half ground. At length, however, the axe was sharpened, and the man turned to me with "Now, you little rascal, you've played the truant, scud to school, or you'll rue it!" Alas, thought I, it is hard enough to turn the grindstone this cold day; now to be called "little rascal" was too much. It sunk deep into my mind, and I have often thought of it since.

When I have seen a man of doubtful character patting a girl on the cheek, praising her sparkling eye and ruby lip, and giving her a sly squeeze; beware, my girl, thought I, or you will find to your sorrow, that you have been turning grindstone for a villain. When I see a man flattering the people, making great professions of attachment to liberty, who is in private life a tyrant; methinks, look out, good people, that fellow would set you to turning grindstones. When I see a man holding a fat office, "sounding the horn on the borders," to call the people to support the man on whom he depends for his office; well, thinks I, no wonder the man is zealous in this case, he evidently has no axe to grind.—*Franklin.*

*Caution against Poison.*—Housekeepers should be cautious about using glazed earthen vessels for holding confections, either preserved in acids, or liable to undergo acetous fermentation. The lead used in the process of glazing is deadly poison. It is disengaged by the action of the acids, and diffuses itself

through the entire contents of the vessel from which it is corroded. Many persons, not aware of this fact, preserve pickles and sweetmeats in glazed earthen jars, and from the deleterious change which the confections undergo in consequence, lose their health, if not their lives, without ever suspecting the cause.

**Tomato.**—It is said that the juice of the tomato vine contains a most superb innate green colouring, which is said to have been used as a dye, and may be made of all the various shades of green, from the dark to light pale green and when mixed with other colours, this green colouring is thought to have a stronger basis than any other vegetable.

**How to judge customers.**—A merchant who has acquired considerable of this world's gain, by attention to business, lately informed us how to he decided whether a man was fit to be trusted or not. He said whenever he saw a farmer come in, riding or driving a good fat horse, he knew he could be relied upon. If his horse was poor, he knew him careless and inattentive to his contract.—*Com. Herald.*

**Cotton for Tooth-Ache.**—Among the best remedies for tooth-ache, and swollen face, is cotton; put as much into the mouth as can conveniently be kept in, and in a few hours the pain and inflammation will be gone. If the swollen part of the face is covered with cotton, the swelling will soon disappear.

**Vinegar in Cream.**—Sir: the difficulty and labor frequently attending the churning of butter, led me to try a variety of experiments to ascertain if a method could be discovered for making butter come quicker than the usual mode. After trying several things, I found that by adding a table-spoonfull of good vinegar to four gallons of cream, when put in to the churn, I obtained butter in from seven to eight minutes. If this information will be of any service to your subscribers, you are at liberty to publish it.—*Far and Mech.*

**Potato Balls.**—A lady of our acquaintance recommends the following preparation:

Mix mashed potatoes with the yolk of an egg—roll them into balls—flour them—or egg and bread crum them—and fry them in clear drippings or lard—or brown them in a Dutch oven.

**To Preserve Books.**—A few drops of any perfumed oil will secure libraries from the consuming effects of mould and damp. Russian leather which is perfumed with the tar of the birch tree, never moulders; and merchants suffer large bales of this leather to remain in the London docks, knowing that it cannot sustain any injury from damp. This manner of preserving books with perfumed oil was known to the ancients. The Romans used oil of cedar to preserve valuable MSS. Hence the expression used by Horace, "*Digna cedro*," meaning any work worthy of being anointed with cedar oil, or, in other words, worthy of being preserved and remembered.—*Greenf. Gaz.*

**To kill Rats or Crows.**—Bruise half an ounce nux vomica and soak 24 hours in warm water; then add 4 quarts corn, and soak it 12 hours; then sow the corn on the ground immediately after planting.

**Sea Water as Manure.**—Several instances are recorded of the benefits of salt water. The potato crop has been very considerably increased by it. It should not be applied when the ground is dry, lest it kill young and tender plants and injure others.

**Salt a Manure for Cotton.**—Alexander Jones, M. D., recommends, in the American Farmer, the use of salt as a manure to improve the staple of cotton. He says, if sea island cotton be planted for several years in succession in the interior of the country, it degenerates into the short staple cotton. In support of the benefit from salt, it is said that cotton in the vicinity of salt springs and licks is of a larger staple.

**To restore Tainted Beef.**—In the last fall I procured an acquaintance of mine in the country to put up a barrel of fat beef for my family's use during the winter. The barrel of beef was sent to me agreeable to contract; but before I had used one quarter part of it I observed it tainted, and so much so as to smell quite offensive. The beef being very fat and fine I was loth to throw it away. I made the



following experiment: I procured a half bushel of charcoal, and after taking out the beef and throwing away the offensive pickle, I re-packed it in the barrel, laying the pieces of charcoal between the pieces; and making a new pickle, and adding a little saltpetre, I covered the beef, and in about six days found it as sweet and good as it was when first put up.

*Shoe Blacking.*—Perhaps the best in the world is Elder Berries. Mash the berries with your hand in a large kettle of water; set them in the shade a few days, until they ferment; then boil it half a day, filling it up with water. After it is cool, strain and wring them through a coarse cloth, and then boil it down to the thickness of molasses. Put a small quantity with a feather on a brush; rub the shoe till there is a fine gloss. The same will make good writing ink.

*Cockroaches.*—A gentleman has recently discovered that spirits of turpentine is an effectual remedy against the depredations of cockroaches. He recommends to put a little of it upon the shelves or sides of bookcases, bureaus, armories, or furniture in which they take shelter, and these troublesome insects will soon quit, not only the furniture, but the room. The remedy is simple, and easily obtained by every person who wishes it. It is not unpleasant to the smell, soon evaporates, and does no injury to the furniture or clothing.

*Gapes in Chickens.*—One of our subscribers informs us, that a drop of the spirits of turpentine, put into the mouth of a chicken from the point of a feather or otherwise, will cure the gapes in chickens. Another says that mixing salt with their food will prevent them taking gapes.—*Ohio Farmer.*

*Rice to fatten Fowls.*—Rice and skimmed milk, heated until the rice swells, are said to fatten fowls very fast. It should be free from acidity, and consequently prepared every day. This food is said to be cheap, and gives a superior whiteness to the flesh.

*Growth of the West.*—Near the close of his life, Dr. Franklin, whose opinions were derived from extensive observation and much practical knowledge, calculated that in fifty years the country beyond the Alleghanies would contain a population of 200,000. But such has been the rapid growth of that distant portion of our prosperous country, that its population, even now, amounts to three millions!

*Garlic.*—The medical properties of garlic are various. In dropsical complaints, asthmas and agues, it is said to have been successfully used. Some instances have occurred, in deafness, of the beneficial effects of wrapping a clove of garlic in muslin and putting it into the ear. As a medicine internally taken, it is usually administered as a bolus, or made into pills. Its smell is considered an infallible remedy against vapors and as useful in nearly all nervous disorders to which females are subject. An oil is sometimes prepared from garlic, which is so heavy as to sink in water; but the virtues of this pungent vegetable are more perfectly and more readily extracted by spirit of wine than in any other way. A syrup also is made from it.

The juice of garlic is said to be the best and strongest cement that can be adopted for broken glass and china, leaving little or no mark, if used with care. Snails, worms, and the grubs or larvæ of insects, as well as moles and other vermin, may be driven away by placing preparations of garlic in or near their haunts.

*Domestic Encyclopedia.*

*Catching Moles in the Neck of a broken Bottle.*—Take two common beer bottle necks, set them in the burrow with their wide ends outermost, facing the hole both ways; make them firm with a couple of sticks to each, crossing each other over the bottle necks, close to their widest ends; exclude light and air by a piece of turf or the like, and the trap is set. The mole, coming to the bottle neck, finds the way plain, and squeezes herself in. She would get through, were she able to hold her hind feet on the glass to push her head and fore legs through; but here she fails, and is generally found squeezed in so hard that a stick is wanted to force her out. This mode of snaring was practised, if not invented, by a farmer in Bauffshire, in the early part of the 17th century; and it is likely that, though it might then have been generally known there, it has since been lost sight of in the adoption of less simple though more portable snares. By this means the poorest cottager might ensnare this unwelcome guest in his garden, whilst he might not be able to spare either his pence to buy, or his time to make any other trap.

*Adolescentulus.*

**Vital Principle of Seeds.**—A small portion of the Royal Park of Bushy was broken up some time ago, for the purpose of ornamental culture, when immediately several flowers sprang up, of the kinds which are ordinarily cultivated in gardens; this led to an investigation, and it was ascertained that identical spot had been used as a garden not later than the time of Oliver Cromwell, more than one hundred and fifty years before.—*Monthly Mag.*

**To Drive Bugs from Vines.**—The ravages of the yellow striped bugs on cucumbers and melons, may be effectually prevented, by sifting charcoal dust over the plants. If repeated two or three times, the plants will be entirely free from annoyance. There is in charcoal some property so obnoxious to these troublesome insects, that they fly from it the instant it is applied.—*Indiana Aurora.*

**Cause of Dyspepsia.**—A pleasant writer in the last number of the American Quarterly, in reviewing the recent books of travellers in North America, agrees with Mr. Tudor, one of the authors reviewed, that, in addition to the American practice of bolting one's meals, another cause of that peculiar American disease called dyspepsia is,—

"The enormous quantity of hot bread, hot rolls, smoking hot cakes, half baked and little removed from dough, and withal saturated with melted butter, which are consumed at nearly every meal, morning, noon, and night, by all ages, and each sex; by little children as well as by grown up fathers and mothers." To these two sufficient reasons we can add another; and that is, the custom of "taking tea," which means drinking a quantum of the Chinese beverage, with a pretty substantial accompaniment of various "relishes," two or three hours only after a hearty dinner. "Don't give the stomach too much to do," said an experienced physician, "and it will never more trouble you," but it may be well supposed that it will murmur and revolt at the little repose which it is permitted to enjoy.—*N. E. Far.*

**The Cow.**—The cow must have been once a wild and savage animal. Whether she was domesticated from the American buffalo, or some other wild beast, we have no means of knowing, with certainty, nor could the knowledge be of much use; we can only know her domestication must have long anterior to any historical record we can ever obtain. But as the cow and the buffalo propagate in any cross, we may naturally conclude them to be of one species, and that the difference has been effected by domestication, conducted by art with different degrees of skill. To see, then how far nature can be improved by art, let us compare the two animals together. In the one case, the wild and shaggy buffalo, with the eyes of fierceness, and frame formed for combining force with unrestrained agility—calculated to bound over hills, and dash through forests and thickets—of little use to mankind, except to the savage hunter, almost in a corresponding degree wild and uncivilized. Compare with this the domestic cow the mother and source of a train of our richest comforts, with eyes beaming with mildness, apparently sympathizing with our social wants, and seeming only to want the power of speech to express her gratitude for the favours she receives, and which she not only richly pays through her life, but with interest at her death. Instead of affording milk barely sufficient to support her own young while their nature requires it, furnishes a supply, not only for her own offspring, but for ours and ourselves, almost unlimited as to quantity and duration. Her shaggy hair has become fine, short, and silky, and the proportions of her form so changed as to increase the quantity of her flesh in those parts where it is most valuable, and diminish it where it less so.—*N. Y. Far.*

**The Skunk.**—Of all the penetrating odours, that of the skunk is as astonishing as it is offensive. It diffuses itself to a great extent, and penetrates through almost every opposing substance. A lady informs me, that on visiting an acquaintance she perceived the smell of a skunk in the butter on the table. On inquiry, she learnt that a skunk, about six months previous, got into the cellar where the butter was packed in stone pots. The scent had penetrated and remained in the butter during the above long period. Farmers and dairymen should be particularly cautious in guarding their cream and butter from the scent of skunks; if the offensive animal be near the house, without being in the milk-room, the butter is very liable to become injured.—*Ib.*

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We refer our Readers to the advertisement of Messrs. William Prince & Sons, on the cover, for many valuable Seeds, which he is ready to supply to those who may want them.